THE

INDIA JOURNAL

OF

MEDICAL AND PHYSICAL SCIENCE

EDITED BY

FREDERICK CORBYN, ESQUIRE.

Ἰητρὸς γὰρ ἀνὴρ πολλῶν ἀντάξιος ἄλλων.

Ilias, Lib. xi. 514.

Corpus humanum, arte prorsus divina fabricatum, multis et miris fungitur muneribus; quorum alia ad res externas, alia ad seipsum tantum pertinent.—

Conspectus Medicinæ Theoreticæ.

Medicamenta bona recte adhibita salutem promittunt; et mala, vel male composita funesta multa adferunt, vel nil Ægrotantibus proficiunt.—

Pharmacopeia Edinensis.

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OF

MEDICAL AND PHYSICAL SCIENCE.

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SKETCH THE FIFTH

OF THE

EDINBURGH MEDICAL PROFESSORS

By Scotus.

Mr. Editor,—I had begun to think long before the Medical Journal fell into your hands, that the subject of sketching the Edinburgh Medical Professors was geting rather threadbare. My first and humble essays had called other and abler pens to the theme, and lest the public taste might be glutted, I had ceased for a time to pander to its appetite.—I now find that Edinensis has given notice to quit, leaving unsketched many distinguished names. Among the rest one, whose fame, as it was short lived with his existence, may not have been much heard of in India. A meteor that rushed through the scientific atmosphere with a light, bright, burning, and most brilliant, but equally evanescent.—Memory takes me back through a long gallery of years and seats me among the aspiring and talented who studied in the university in 1825. I hear the last name on the roll called ; then the gentle tap to the President's hammer, and his announcement of the question for debate.

If one could now learn the destiny that has since awaited each individual of that Society how impressive would be the lesson. The robust and vigorous rotting in their graves—the sickly and delicate yet in existence—the genius sunk low and degraded, having yielded to the tempting charms that the poisoned cup of pleasure offers to its votaries—the drone sipping the honey—the industrious not lucky enough to taste even of the sweets of comfort and independence. But what could all this teach, more than what if we do not know we ought to know already, that talent, to be useful to ourselves and to others must be the handmaid with rectitude of purpose, based upon a belief in all that is good and great in human nature, And he, the champion in that hall of scientific tournament, the acute in argument, the ready in reply, the caustic in satire, the playful in wit, the commanding in eloquence, Where is he?—gone to that bourne whence no traveller returns.

"The spoiler came, and all his promise fair
Has sought the grave to sleep for ever there."

I speak of young Cullen, and his contemporaries who read this notice of him will not think my expressions exaggerated.

That young man was assuredly a genius, and he bore the impress that she places on the brow of her sons. Talent and industry that led to success in the various occupations of man's life are one thing, genius is another; *Nascitur, non fit.* When these qualities are blended, we have the men who in their respective department give the character to the age they live in—I may mistake in thinking that the subject of this sketch was one who, had he lived, would have set his stamp on some branch of medicine or of its auxiliary sciences.—Who can now disprove the opinion I entertain ? The grave has settled that argument as it does all the anxietics, all the pleasurcs, all the fears, all the forebodings, all the longings after immortality. But I have left the president's call for a speaker on the subject for the evening's debate long unanswered—much longer than it was wont to be in reality. I am not, however, now that I have returned to the subject, going to give a sketch of a debate at the Royal Medical Society.

As is the case at all public assemblies, from a debate in the House of Commons to a meeting of creditors in the Town Hall of Calcutta, much sense and more nonsense was wont to be spoken. But as Mr. Cullen who had been standing at one end of the room in a drooping thoughtful attitude with his hands linked closely across his breast, emphatically pronounced—Mr. President, there was a hushing to repose of many voices. He would commencc coolly and deliberately to state the premises of the argument; warming as he proceeded, would step forwarded from the crowd wont to be gathered around him, and I have never, at the bar or in the pulpit, or any where else, heard finer public speaking than that. It was real eloquence,—to define which I am not going to pause further than to state that it grappled logically with the subject, that it illustrated from the stores of a prolific and brilliant fancy, that it impressed by a varied and manly emphasis, that it pleased by a choice of language altogether wonderful in one so inexperienced, and,

finally, that it charmed by being delivered in a voice and with action not easily excelled.

The above praise, perhaps somewhat unmeasured, applies of course to studied motions on any subject of *peculiar interest*, such as phrenology, the physiology of the nervous system ; but there was not a night that Mr. Cullen had not taken part in the debates, now bringing forward cases of his own, in which his knowledge of pathology was truly conspicuous, at other times commenting upon the theories and cases of some fellow member. Mr. Cullen was, during one of the seasons I studied in the infirmary, a clerk in the clinical wards, there his industry and his talent were equally conspicuous. In 1816 he commenced lectures on anatomy, and I believe I may say, that no young lecturer of his day gave so much promise of being an ornament to the school of his native city. He had studied on the continent for several years, if my memory serves me right, he had been sent to Paris with some official function, the nature of which I at this moment forget. What justice he did to the trust I know not, though it just flashes across my mind, that his employers were dissatisfied. Of this I am sure,—that he embraced the opportunity of storing his mind with the knowledge that is peculiar to the continental schools. In the minuteness of anatomical and physiological investigation, the French have taken the lead since the time that Buchat propounded his splendid views of general anatomy :—but I am wandering from my subject.

In the onset of a brilliant career, Mr. Cullen was cut off very suddenly by an epileptic fit. He was found dead in his chair, a book lying open before him. He was subject to epilepsy, but by the way of his death it would seem there had been no convulsive struggles in this last attack. Mr. Cullen's person was of that description that the passer by, if commonly observant, would immediately put him down as no common man. He was of middle stature, and of dark complexion. The head, which was covered by a profusion of jet black hair, was large, the forehead not very high, but remarkable in length from the ear forwards—a shape of head which I have observed in many men of talent. The features of the face were handsome and expressive—a perfect prey to the mind's emotions. The large dark eye penetrating and keen. The nose large and prominent. The mouth small and well shaped, enclosing a beautiful row of teeth, white as the purest ivory. The chin was very prominent, and the expression of the connected features was thoughtful and placid in repose, but beaming and intelligent under excitement.

Such was Mr. W. Cullen :—I am unable to furnish any particulars of his birth, parentage, &c. but I believe, he was the grandson of one of the great fathers of the Edinburgh school, the author of the outlines of the practice of physic, the nosologia, &c. Whether this young man was the talented being that I think he was, many may yet doubt. I may have failed to do him that justice which I hear has been rendered to him by one of his fellow citizens, Mr. Chambers, a gentleman of established literary reputation. When I mention that I had but a very slight personal acquaintance with Mr. Cullen, I shall not at any rate be accused of giving way to the amiable partialities of private friendship.

From what I have said in the first page of this sketch, it might be supposed, that the late Editors of the Medical Journal had not encouraged the continuance of my sketches. That was far from being the case, and I must take this opportunity of thanking them for their unremitted courtesy and encouragement to one, who is but a young aspirant in the field of letters.

Scotus.

OBSERVATIONS ON INTELLECTUAL AND CORPOREAL ACTION.

Section I.

It is said, that when Mr. Dryden the Poet wished to commence some new literary work, he prepared himself for the task, by taking some purgative medicine to throw his bowels into action, thereby to cleanse the stomach and quicken the circulation. In setting out with this subject, I think it is unnecessary to offer any elaborate arguments on the sympathy between the stomach and the intellect. Let it suffice to say, that in some of our oldest writers, we meet with passages, which assure us that mankind were sensible of this sympathy at a very early period of time. Shakspeare and Burton abound in allusions to this fact. The Scriptures contain allusions of the same kind; and I am persuaded that the Hebrews believed the bowels to be the seat of sensibility. English writers, about the year 1600, occasionally refer to the bowels as the seat of the soul. Oliver Cromwell, it seems, imitated the Fathers of the Church when he wrote the following clause—" I beseech you in the bowels of Christ, search after the mind of the Lord in it towards you, and we shall help you by our prayers, that you find it. For yet, if we know our hearts at all, our bowels do in Christ yearn after the godly in Scotland."*

I cannot avoid observing, particularly, that the stomach and bowels seem to share more in the operations of the mind than any other neighbouring viscus ; thus we see in

* H.'s England, p. 129. vol. vii.

the worst cases of fever, when the stomach is extremely foul, much delirium, dreaming, and other mental perturbations. In enteritis there is, during the advanced stages of that disease, the most dreadful muttering, delirium, while on the contrary, the liver or spleen *may* pass into suppuration and yet the patient will manifest every symptom of sanity, and some degree of mental regularity. Though the brain is thought to be the domicilium animale, yet during disorders of it, such as phrenitis, there does not seem to be more intellectual derangement than during either gastritis or enteritis. Now the health of the bowels and stomach seem to be quite as essential to mental peace and regularity, as that of the brain and its nerves. Yet what would the wisdom and refinement of the nineteenth century think of a man, if he were gravely to assert that it is as possible for the soul to abide in the abdominal viscera as in the brain?

But in writing unsystematically on this subject, some difficulties present themselves; I shall therefore try to divide this *discourse* into two parts, and first speak on the excitability or vital principle, in as much as it relates to the passions of the mind, next offer some observations on the blood, the nervous system, for these bear great connection with the imagination. This paper cannot be made interesting to every reader, unless something is said on the nature of excitability. I use the term in the same signification in which it is current in our medical works. If the reader is an utter stranger to such reading, I fear I shall neither divert nor instruct him. Nevertheless I shall state that the phenomenon of excitability which pervades both the vegetable and animal world is such. Excitability is exhausted by action and stimuli, and it is accumulated by rest, sleep, and cold. This is all that I can afford to say in this place on the doctrine of excitability: those who are curious on the subject may refer to *Head quarters*. The most active passions of the human soul are joy, grief, fear, love, hope, and malice: the four first seem to be genuine passions: the three last are modifications. For example, hope is a diminution of joy, malice of anger, and sentimental love in some stages is entire grief. Let us dwell on this topic for a while. Joy and grief affect the human body in the same manner as stimulus and cold. Joy exhausts excitability, and grief accumulates it. I have said that excitability is the vital principle, and if grief accumulates it, it is implied that grief gathers life: therefore it would be supposed that men who labour under keen anguish should live longer than others. This is however not the case. Now to solve this seeming contradiction;—when the body has been subject long to extreme cold, the excitability accumulates in a high and preternatural degree, the body loses its proper temperament; when stimulus is again applied, the morbid excitability is rapidly exhausted, and the temperament goes into the opposite extreme. So when grief has gathered morbid excitability, the least joy exhausts it to such a degree, as to leave the vital functions in disorder. A celebrated chemist supports this doctrine with the following remarkable historical instance: "a mother (he says) was plunged into the extreme of grief, on being informed that her son was slain in battle; but when news was brought her, that he was alive and well, the effect upon her spirits was such, as to bring on instant death. This event ought to have been unfolded to her in the most gradual manner: she should have been told, for instance, that he was severely wounded, but that it was not certain he was dead, then that there was a report he was living, which should have been gradually confirmed as she could bear it."

Joy and hope seem to be the same passion: hope is only a diminution of joy. For instance, suppose a lover is accepted by the object of his affection; the consequence of this success creates a passion we call joy, which exhausts excitability. But if by some chance he is again led to doubt or dote, some degree of sorrow occurs, which accumulates excitability, and creates a passion during its process, which we call hope. If he be convinced that he has lost her, he will then sink into sorrow, and no longer remain in the medium hope.

In like manner we may explain the nature of anger and malice; the latter is the remains of the former; anger hurries the blood and exhausts excitability, (for the blood is the stimulus of the body) in some degree, this occasions what the faculty call irritability. But malice is more slow in its operation, though it acts in the same manner: now for illustration,—I have seen two sworn foes, as angry as blood and soul could be; the constitution being in a state of half exhausted excitability or irritability. But so soon as one had obtained ample revenge over the other, his excitability or sensibility again begins to accumulate, and he laments his rashness or cruelty. This is the case with Othello: after he kills his wife, he weeps over her body. Anthony, when he finds Cleopatra has ruined his ambitious views, calls her a foul Egyptian, and so on. But when he hears of her death he is struck with sorrow, and exclaims so solemnly, "dead then! ! !" I have heard that a duclist, after shooting his adversary, has immediately fallen over his body and wept. These observations will satisfy the reader that anger is a very transitory passion, and after its fits are over, the sensibilities again come quickly into action; now malice is of a different nature, it is a slow but a more per-

manent passion than the one we have just done with. During my observations on mankind, I have learnt that cool thinking men, and pensive women, are most malicious. But if malice should create a high degree of morbid irritability, it will break out in brutal rage.

Every man of strong feeling may assure us that the body participates in the torments of the soul. It has been said, and I believe rightly, that, the cancer in the stomach, from which Napoleon Buonaparte died, was occasioned by the action of his ambitious mind upon that vital organ. At a period of my life, when it was my fate to labour under keen anguish, the tones of my stomach were so debilitated, that I could scarcely retain a little food from the most delicious dish. Continual action of the mind will so exhaust the excitability of the brain, as to produce symptoms of phrenites: and the action of the brain on the stomach, by sympathy, will so inflame the latter organ as to bring on symptoms of gastritis.

Physicians divide our constitutions into several grades, such as cold, torpid, phlegmatic, bilious, nervous, irritable, and so on. In nervous constitutions the circulation is probably quicker than in any of the others; therefore men of these constitutions are chiefly remarkably imaginative. The torpid and phlegmatic I consider as dull and stupid. I never knew a man of torpid or corpulent habit to be conspicuous for wit or genius. In fact I never saw wit and corpulency combine. There is, however, in the same person, changes of constitution. In very young people the nervous sensibility is very great, and easily affected: a child will cry at what you or I will laugh. The prime of life is the time in which we abound in vigor and intellect. But from constitutional differences, the intellect is developed at different periods of life in different men. There is a strange state of stomach which will attend some men through the whole of their prime, and yet it will vanish on the approach of old age, and it was never present in infancy.

"For this exemption, I think, we may in part account from the influence which the mind seems to possess over the nerves of the stomach. In infancy and old age the feelings are not so acute as in the intermediate periods of life, and they have, therefore, not such powers upon the operations of the body."*

It is for some such reason, I suppose, that very young people are seldom great wits, for their nerves are too full of sensibility, and the process of exhaustion in the excitability has not yet taken place, and the vital functions have not yet come in contact with the world; but a certain monthly journal assures us that our wits are the most wretched fellows in existence. Enough for the present, I will resume the subject in another paper.

17*th September*, 1835. J. G. *Sulkea.*

* Pemberton on the viscera p. 120.

ABSCESS IN THE RIGHT HYPOCHONDRIAC REGION.

The following case, treated by Mr. Dunbar with energy and skill, will be read with considerable interest. The symptoms are those of abscess of the liver, and the bold treatment of bleeding to the extent of 30 ounces, in a native, at the onset of inflammatory symptoms, would, in all probability, have arrested the progress of the disease; had not, as was obviously the case some injury existed in the lungs, probably of the formation in the right hypochondrium. It is much to be regretted that native prejudice precluded our able practitioner from ascertaining the true nature of the disease, by a post mortem examination.

To the Editor of the India Journal of Medical Science.

Dear Sir,—The following case, which proved fatal some time ago in the Hospital of the Ramghur Light Infantry Battalion, may perhaps be deemed by you worthy of insertion in the Medical Journal. The symptoms were in several respects peculiar and interesting, and I have only to regret that I was unable to ascertain, by a post mortem examination, the precise nature and extent of the disease.

Seelwunt Sing, Sepoy, 2d Co. Ramghur Battalion, was admitted into the Hospital of that corps about the end of April last. He complained much of pain in the right hypochondrium shooting up towards the shoulder. The pain was described as recurring at uncertain intervals, never becoming very acute, never lasting for any considerable period of time. On examination considerable tension and swelling in the region alluded to, with tenderness on pressure, were found to exist. The *rectus muscle* of the right side, when compared with its fellow on the opposite, felt tense, and prominent. Pulse quick and sharp, tongue foul, skin hot and dry.

He was bled on admission, to the extent of nearly ℥ xxx. and 15 leeches were applied to the seat of pain. R. Calomel. gr. x. Pulv. Jalap. gr. xv. statim. habeat cras mane solutionem ex. tart. antimon. gr. ii. sulph. Magnes. ℥ss. On the 26th April, the day after he took the latter medicine, his bowels had been well opened, he had vomited one or twice and still felt very sick. P. soft and not frequent. T. cleaner. Tenderness and tension in right hypochondrium Re-

pet. hirud. R. calomel gr. xii. Ext. colocynth co. gr. viii. Repet. cras mane Pulv. Jalap. co. ℈ii. It would be tedious to go through the whole plan of treatment adopted in this case, and therefore I shall merely observe, that leeches were frequently applied, he was cupped twice with some relief, and an attempt was made to bring the system under the influence of mercury. On the 10th of May his mouth became sore. Still there was little or no improvement, the tension and pain in the right side continued, at one time more observable and more severe than at another, but never wholly disappearing. The following is the short entry I find in my note book on the 15th May. "Seelwunt Sing. A large abscess appears either to have formed or to be forming in the right hypochondriac region. A moderately hard swelling extends downwards nearly to a level with the umbilicus, painful on pressure, without distinct fluctuation. Skin above the tumour pale and glistening. No rigors or nocturnal sweats. P. 80. B. kept open by medicine." Soon after this Seelwunt Sing began to get hectic and low. He had several severe rigors, and notwithstanding the free use of tonics, it was evident that he could not hold out much longer.

The tumour had attained a very large size, bulging out the lower ribs; its lower border extending down to the umbilical region. I considered, under all the circumstances of the case, that it would be proper to give the poor man the only chances which seemed to remain to him, viz. by puncturing the tumour, as I dreaded every day from its excessive size that it would burst into the cavity of the abdomen. I accordingly made a small opening into it, at its most depending point. Fully two pounds of rather fetid pus flowed from the wound, and more would have followed, had it been thought advisable to use any force in expelling it. On his rising to stool about an hour after the operation, a considerable quantity of fetid pus was again discharged by the opening.

On the 17th June the tumour appeared nearly as large as before the operation. By gently compressing its sides, upwards of a pound of white flaky purulent matter was evacuated. The patient did not feel in the least degree faint when the opening was dressed. To-day he directed my attention to a small swelling about the size of a pigeon's egg, which appeared to have risen suddenly between the 2d and 3d ribs on the interior part of the right side of the chest, nearly in the direction of a straight line, drawn downwards from the centre of the clavicle. He said that such a swelling had frequently formed in the same situation, and that it had generally discharged its contents without giving him, either at the time or afterwards, much uneasiness or trouble; a poultice was applied. The tonics; viz. quinine with port wine, were directed to be continued. On the 18th this small tumour burst and discharged not less than 12 or 14 oz. of pus; what particularly arrested my attention was, that while the matter was oozing out, which it did in one continuous stream, there was an evident and gradual subsidence of the tumour in the side, which had again attained to nearly the same size it had yesterday. When the discharge ceased, it (viz. the large tumour) was observed to be materially diminished in bulk. By pressing on it gently with the hand, matter was discharged from both openings, that is to say, from the incision which I had made, nearly parallel to the umbilicus, and from this new abscess in the chest, thus proving clearly the existence of a communication between the two.

On examining the right side of the chest, the sound on percussion was found to be generally remarkably clear and distinct. This mode of examination was tried at different times, both before and after discharges of matter. I used a piece of thick India rubber, about three inches long and two broad, laying it firmly on the part of the chest to be percussed, in the manner now practised in many of the hospitals at home. By this means I found it quite possible to trace a gradual accumulation of fluid in the cavity of the chest, previous to its being discharged by this fistulous opening—the clear sound passing at once into one perfectly dull.

The stethoscope, which was frequently applied during the latter stage of the disease, indicated the total absence of respiration, excepting at the root of the lung, where it was heard mixed with rales. The "tintement imetallique," or that peculiar impulse conveyed to gaseous fluid in the sac of the pleura, whether from a fistulous opening in the lungs or otherwise, was distinctly heard every time I examined the patient. There was no perceptible difference of size on measuring the two sides of the chest. The left lung appeared to be in all respects sound and healthy, as far at least as stethoscopic examination went. Cough, which had never formed a very prominent symptom in the case, now became urgent and severe. Much muco-purulent matter was expectorated daily, in addition to what was evacuated by the two abscesses. The sense of suffocation was at times so great, as to require the administration of powerful stimuli. In this state Seelwunt Sing lingered for some days, and died on the 21st June. It may be observed that his bowels never gave him the least trouble during the whole course of his illness. The motions were generally regular and natural, never

appearing to be deficient in the proper quantity of bile. All my attempts to obtain a post mortem examination of this very interesting and obscure case were unavailing. On instituting some enquiries into Seelwunt Sing's history, I learnt that 13 years ago, at which time he was a sepoy in the Madras army, he had received a severe lance wound in the chest, (on the site of the little tumour) which was followed by hœmoptysis, and other symptoms of serious injury of the lung. His recovery, it appearcd, had been very tedious, and about two years after the receipt of the wound, he had been obliged, in consequence of broken health, to take his discharge from his corps to which he then belonged. Having subsequently improved in health and strength, he entered the Ramghur battalion. I was credibly informed that his wound had broken out afresh on two or three occasions since he joined the Rcgt., always however healing up kindly, after the discharge of a greater or less quantity of purulent matter. I omitted to mention in the proper place, that during the first stage of the disease, the paticnt seemed generally to prefer lying on his back. Latterly, especially when his breathing was affected, he always reclined on thc affected side, and could not lie comfortably in any other position.

M. Dunbar, *Assistant Surg.*
Ramghur Lt. Inf. Bat.
Dorunda, in Chota Nagpore, 15*th Oct.* 1835.

GENERAL HOSPITAL CALCUTTA.

CLINICAL REPORTS.

CASE III.

TRAUMATIC DELIRIUM—TREMENS.

J—A—*Ætat.* 33, was admitted into General Hospital, 16th October, in a state of intoxication, but with sufficient intelligence to understand what was said to him ; he had tremors of the hands and limbs, a tremulous white tongue, a feeble, unsteady, rapid pulse, and cold clammy skin. He had been in liquor for several days, and upon the 14th jumped from a window 20 feet and lighting on his heels, fell backwards and cut the hairy scalp over the occipital bone, after which he was insensible for some hours. The heels are a good deal swelled and discoloured by ecchymosis, and painful on pressure. He complains of slight headache and pain of loins, disordered bowels, with inability to sleep, and sickness at stomach.

R. Ipecacuan. ℈j.
Ant. Tart. gr. j. stat. Sum.

17th.—Vomited copiously, but continues incoherent, and shaky, with more of stupor and tremor.

R. Pulv. Jalap. c. ℥ ;
Antimon. Tart. gr. i.

18th.—Was very freely purged all yesterday, towards night he became noisy and talkative, and is now in a state of high delirium ; the pulse is hard and quick, the skin hot. T. dry, eyes are not injected, but wander wildly, and the pupils are dilated. Upon the accession of these violent symptoms last night, he took 1 gr. of opium with 3 of camphor and 2 of Ipecacuan.; but the violence of the patient, the acute headache, the hot skin, &c. sufficiently characterise the supervention of phrenites; and contra-indicate a sedative treatment.

V. S. ad. unc. xx.
Shave the head, and apply cold water.
Haust. purgans. Infus. Senna. commun.
c. Ant. Tart. gr. $\frac{1}{8}$ every 2 hours.

Vespere.—Was composed a little after the bleeding, the blood is firmly cupped and has a bright white buffy coat. p. full and hard, extremities cold.

V. S. ad. unc. xvi.
R. calomel gr. viij.
Ant. Tart. gr. $\frac{1}{2}$
Ext. Colocynth gr. xv.

19th.—Blood buffy and cupped, serum pale and transparent. Has been furiously delirious all night, attempting to injure himself and others. B. opened twice, Evacuations pale and acrid ; P. 64. and small, body and extremities cold and moist, the head is hot. T. coated brown.

V. S. lbiss. stat.
Rj. P. Jalap C. ℈iv.
Ant. Tart. gr. 1.
Cold dash to the head.

Vespere.—Continues quite out of his mind, but quieter : 4 stools, pale and scanty. T. darkly coated, P. 74, small.

Apply 30 leeches to the temples and
A blister to the nape.
Rj. Calomel gr. xv.
Colocynth gr. xv.
Ol. croton g j. at bed time.

20th.—Slept quietly after mid-night, has had 2 stools this morning: offensive, acrid, mucous discharges with some green bile.

P. 98.—Apply a mustard sinapism to the belly.

Rj. Haust. purgans. Infus. Senn. cum
Magnes. Sulph. and ant.tart. every 2 hours.

Vespere.—Repeat the pills as last night.

21st.—Several dark watery evacuations have been procured, P. hard and full, 98. T. brown,and dry. Some headache,and hot skin, with thirst.Apply xxiv leeches to the temples.

P. Jalap, c. ℥j. ant. tart. gr. $\frac{1}{2}$ now, and
Rj. Calomel gr. viij.
Ant. Tart. gr. $\frac{1}{2}$.
Ext. Colocynth gr. xv. at bed time.

22d.—Copious bright green, very offensive, mucous, and feculent stools. Skin moist. P. soft and quick, manner composed.

P. Jalap, C. ℥j.
Ant. Tart. gr. $\frac{1}{2}$.

Vespere.—Continues freely purged, the evacuation more yellow and oily.

Rj. Pulv. ant. gr. vi.

Ext. Hyosciam gr. viij.

23rd.—Slept comfortably and perspired, evacuation as last described, more hurry of manner than yesterday.

Repeat the Jalap now, and the P. Ant. at night, with Pil. Hydrag, gr. vi.

24th.—Composed and tranquil. B. open, stools watery, with a yellow feculent sediment.

Repeat as yesterday.

25th.—Gums are swollen. T. white and swollen. Bowels free, no headache.

Repeat the Jalap. p. c. ʒi.

26th to 31st.—Continued to recover gradually, taking ℈ij. of p. Jalap, c. daily, and not allowed to eat any thing. He used a liniment and bandage for the heel, and had simple dressing for the wound of the scalp. Left the hospital on the 31st.

Remarks.—The condition of the vital powers at the time a patient is first submitted to treatment, is a matter of some importance. In most diseases, a change implicating the functions of life, for a period of longer or shorter duration, may be observed to precede the more characteristic deviations of function and action which give names to diseases. The former is too apt to be overlooked in the consideration of the latter, yet such partiality of view is always dangerous, as a guide in the treatment. Thus in the present case, although the particular excitement, which terminated in such acute phrenites, had existed for a considerable time before the manifestation of violent symptoms, we find it attended during the latent period, by so extreme a depression of the conservative powers of life, that there can be no doubt of the result, had attention been directed to the former without distinct reference to the latter. How frequently has life been destroyed in the hunting field, or when an accident has happened, by which a person is stunned and remains insensible longer than the bystanders think right, from the indiscreet use of the lancet or penknife. A coroner's inquest might in such a case bring in a verdict of 'died by the visitation of God,' and friends lament that all was *too late*, while in point of fact any interference would have been premature. In the present case, there co-existed the depressing influences of long intoxication, with succussion of the spine: the reaction, when it took place, on the 4th day, was great, and was promptly and fairly met, but the loss of two ounces of blood one moment sooner might perhaps have extinguished life. D. S.

CASE IV.—CHOLERA.

That spasmodic cholera may be occasioned by the intemperate use of Bengal rum, and many other pernicious compounds of spirituous liquors which our soldiery are in the habit of drinking, is now universally acknowledged. We are not therefore surprised to find that in the general hospital have occurred several cases of cholera from the men of His Majesty's 9th Regiment recently arrived from Europe. The stimulating effect of ardent spirits is exerted, in the first instance, on the stomach, and spreads by sympathy to the head and other parts. The nervous system is thus excited by the force of circulation in the blood vessels of the brain, and vomiting is the consequence of its surcharged state, whilst the bowels are affected by the particular quality of the liquor drank. It is however peculiar to the living fibre to remain only for a given time in the state of excitement, and after the cessation of the disease, the body has been so weakened by excessive excitement, that unless some new stimulus be applied, it does not return to its original condition. Hence all philosophical authors who have written upon drunkenness aver, that it is only by the exhibition of moderate stimulus that the body can resume its former health and vigour. It is scarcely possible however to explain, by demonstration, the scale of excitability. Mr. Christie, it is true, has asserted that yellow fever is a sthenic disease in the first stage, in the second it is a mixture of sthenic and asthenic, and in the last it is truly asthenic; which that able writer endeavours to demonstrate by mathematical scale. Dr. Trotter assures us that a fit of intoxication is somewhat analogous to the above description of yellow fever. According to Dr. Brown, if you begin with a person in good health, and stimulate him to any sthenic disease, he must afterwards fall a degree below what he originally was—a conclusion to which every experienced regimental surgeon must have arrived in his examinations of the drunkard. The management of cholera in such a one must be different from that in all other descriptions of patients. The line of treatment is one of great nicety, and, in the following case, which occurred in the general hospital under that able practitioner Dr. D. Stewart, it was pursued most judiciously. In such a constitution, bleeding, to say the least of it, would have proved highly injurious, whereas the judicious introduction of sedatives, combined with ammonia carbonas, and followed up by free purgation, brought, not only the circulation, but the chylopoetic viscera into healthy reaction.

The carbonate of ammonia is a valuable remedy, not only on account of the diaphoresis which it occasions, but from its peculiar and well known action as an antispasmodic.

October 1835.

H. Barley, His Majesty's 9th regiment ætat. 22, a healthy young man lately arrived

from England, had been to sleep with the regiment in tents, and exposed to cold and wet yesterday. Admitted at 8 A. M. with the usual symptoms of spasmodic cholera, viz. cold shrunk skin, spasms of the extremities, continued vomiting, and purging of clear watery fluid; imperceptible pulse, distinct mental functions, and a puerile voice. He has been ill since 4 A. M.

Rj. Calomel ℈i.

Opi. Ext. gr. ij. stat. sum.

Ant. Ammoniæ Carb. gr. xv.

Mist. camphor ʒ i. ft. Haust.

Apply a hot mustard sinapism to the belly, and a bag of hot bran to the back and extremities.

Noon.—The vomiting and purging have ceased, the cramps continue, pulse perceptible at the wrist, contracted features, cold perspiration.

Rj. Calomel gr. x.

Colocynth Ext. gr. xii.

And Rj. Liq. Ammon. ʒ j. Mist. camphoræ ʒss. now.

Repeat the draught every half hour, and the pills after three hours.

8 P. M.—Has taken the pills 3 times, and appeared to be rallying, but is now very low, quite cold, extremities livid, skin bedewed with cold sweat, voice infantile, the pulse is perceptible, very rapid and small.

Rj. Calomel ℈i.

Camphor gr. x.

Carb. Ammon. gr. xv. *now*,

and to be repeated at midnight. Enema of Ol. Terebenth, and Ol. Ricini. *aa* ʒi. *hot*, to be thrown up by the long flexible tube of Read's patent stomach pump, *now;* and give carbon. Ammoniæ gr. x. in Aqua Menth vivia. ʒi. every half hour.

1*st Nov.* 6. A.M.—Pulse steady, voice more sonorous, no cramps. Stools are a shade darker, a light grey fluid, profuse perspiration about head and neck, and more cerebral disturbance than yesterday.

Apply xii. leeches to the nape.

and Rj. Calomel gr. vi.

Colocynth.

Scammoniæ *aa* gr. v.

Ol. Caryophillæ qtts. ij.

Every four hours to-day.

Continue the Carb. Ammonia gr. x. every hour.

Noon.—Warmth of surface natural.

Carb. Ammon. gr. vi. every hour.

8 P. M.—Stools tinged yellow, p. rapid and full, considerable headache, has taken pills 4 times.

Omit.the Carb. Ammon.Continue the pills.

Nov. 2.—Became very low at midnight, threw up his pills,and a mass of white fibrinous matter. There is some fever now, a rapid small pulse. Stools watery and olive colored, headache.

Xii leeches to the nape.

Ol. Ricini. ʒi.

Ol. Terebenth, ʒss

Stat. sumend.

Noon.—More fever, feculent stools very dark, headache, dry skin.

xvi leeches to temples, repeat the pills as yesterday now, and after four hours.

8 P. M.—Repeat the pills now, and at midnight.

Nov. 3.—Stools green and pulpy, gums swollen, skin moist and warm.

Rj. Ol. Ricin. ʒi.

Rj. Infus. gentian. stat. sumend.

————Senna *aa* ʒi.

Sodæ Carb. gr. v.

Tinct. Rhei ʒi.—three times to-day.

Nov. 4.—Dark feculent stools, slept well.

Repeat the medicine as yesterday.

Vespere.—Copious bilious evacuations, very faint and much exhausted.

Rj. camphor gr. iij.

Ext. Hyosciam gr. ij.

Pil. Hydrarg. gr. iv.

Pulv. Ipecacuan. gr. i., to-night.

Nov. 5.—Restlessness and headache, p. quick and hard. Skin dry,

X. leeches to the nape,

P. Jalap, c. ʒi.;

Nov. 6.—Dark brown copious, watery, and feculent stools; apyrexia; gums very sore.

Gargle of Chlorid, sodæ.

Rj. Infus. Senna,—Gential *aa* ʒ ;

Magnes. Sulph. ʒij,—Carb. ʒss. daily.

Nov. 10.—Alvine evacuations are thin, but of natural colour and appearance,

Rj. Pil. Rhei c. gr. x.—daily.

Nov. 16.—Discharged.

Remarks.—This was one of the earliest of a rapid succession of cases, from the men recently arrived in the months of October and November. The crowded state of the barracks had necessitated the erection of tents on the esplanade, outside of the fort, and probably the utmost vigilance could not prevent the influx of raw fruits, spirits, &c. and the consequent bowel complaints, and catarrhs. Many of these were slight, but cholera in its various forms was common. The milder cases of bilious cholera, with green purging and no general spasms, recovered rapidly after bleeding, a full dose of calomel, and brisk purging.

The worst cases succeeded to no previous irregularity, occurred generally at 3½ or 4 A. M. and came into hospital about 8 or 9 o'clock, at the collapse of the cold stage, still vomiting and purging, and with universal cramps: hypocratic countenances, clammy sweats, and no pulse.

In 3 cases a slight reaction having been brought about, V. S. was practised, but with bad consequences. Post mortem examination exhibited extreme vascular congestion of the cellular structures of abdomen, and acute inflammatory congestion at the

pyloric end of the stomach: passive cadaveric congestion about the spinal marrow and brain. Several cases which recovered, were treated precisely as that described. So long as our limited knowledge and powers deny to us the power to see "into the life of things," and so long as we remain unable by post mortem investigation to elucidate primary lesions, dependent solely on such obscurities as vital action and structural cohesion, we must remain content to follow the indications both as to direction and extent of medical interference, which experience, analogy, and observation have pointed out. The term "Choleric Fever," given to the disease by Dr. Johnson, seems to comprehend all the varieties which the disease is capable of assuming; and if the word "Fever" attaches to the nomenclature any thing of theory, it probably comprehends in the present extensive and philosophical use of the term, the true rationale also of the treatment.

D. S.

HOSPITAL OF THE 2ND OR QUEEN'S ROYAL REGIMENT.

CLINICAL REPORTS BY MR. HUNTER.

Bronchitis Acuta.

H. Simmons—Æt. 33,—Admitted 14th June 1835, complains of dyspnœa and cough with frothy expectoration, headache and pain in his loins, which he attributes to cold, caught ten days ago. Aspect healthy, skin cool, tongue white—appetite good, bowels regular, pulse 92, moderate. *Physical Signs:* thorax well formed and resonant, respiration (both thoracic and abdominal) strongly marked, sonorous and sibilous rales over all the chest—V. S. ad. ℥xii. &c. *Vespere*: Respiration easy since 10 A. M., rales continue.—15th Dyspnœa exacerbated at 10 P. M. and continues. Apyrexia; Pulse 72.—17th Respiration quite easy—no rale except on full inspiration.—18th Feels quite well, wishes to return to duty. Rale audible in left chest on full inspiration.—20th. Weak sibilous rale in left chest on very full inspiration.—21st no rale; convalescent.

Bronchitis Chronica.

H. Herron—Æt: 28—Admitted 11th August 1834. States that he caught a severe cold at this station in 1826, from sleeping out in the dew, and that he has ever since been subject to pectoral complaints in Poona; though, with the exception of slight dyspnœa, he enjoyed very good health during the three years the regiment was in Bombay. Since his return to Poona, ten months ago, he has had frequent recurrences, and his symptoms latterly have assumed an asthmatic character, and are much aggravated on any change of weather or situation, even from one ward to another—*Present state.* His Dyspnœa and cough with tenacious, sometimes frothy, expectoration. Respiration permanently wheezing. Aspect pale. Apyrexia. Pulse 84—*Pysical Signs*: Chest full, round, expanded, and very resonant. Respiration high and bronchial, with variable snoring and sibilous rales, over all the chest anteriously. At present more obscure in right subscapular region, and scarcely audible in left. *Diagnosis* "Thickening of the Bronchial membrane," and "Emphysema," from chronic Bronchitis. *Prognosis:* "Incurable." "Totally unfit." "Invalided."

Camp Poona, 1st October, 1834.

ASTHMA.

W. Taylor—Æt. 30—Ten years in India. Admitted 18th May 1835. Spare habit. Some time past engaged as a schoolmaster. States that he has not been in hospital for the last seven years, and enjoyed excellent health till two nights ago, when he awoke scarcely able to breathe. That the dyspnœa went off in the course of the day, but returned in a similar manner this morning about 2 A. M.; knows no cause. Feels now much better, but respiration still loud and wheezing. Skin cool. Tongue pale. Appetite tolerable. Bowels regular. Pulse 80, moderate. *Physical Signs:* Thorax well formed and resonant. Snoring and sibilous rale over all the chest. V. S. ad. ℥viii. Calomel gr. iv. Tart. Ant. gr. ss. Pulv. Jalap. C. gr. x. S. S. Solut. Tartarizat. ℥ ij. 2d qq. hora.

Vespere.—Dyspnœa went off about noon. Respiration nearly natural, no rale. Tart. Antimon, gr. ss. Tinct. Opii Camph. gtt. xx. Mucilag. ℥iv. m. tertia qq. hora repetend. Ung. Tart. Antimon. subclaviis. Spoon Diet.—19th Paroxysm as yesterday. Tongue pale. Bowels free; pulse 92. Now says he has had two or three paroxysms like the present within the last year, but never more than one at a time, and that he always threw it off by sweating. Wishes something to induce that—Cont. Haust. et Ung.—20th. Paroxysm less severe. Tongue now loaden with a thick yellow fur—Anorexia. Thirst. Skin cool. Bowels open—Pulse 76—Statim Calomel grs. x. Pulv. Jalap. C. grs. x—Meridia Sulph. Mag. ℥iv. Cont. Haust. ut opus sit—Omit. Ung. 21st Medicine acted freely—Tongue still loaded. Slight paroxysm—Apyrexia—Pil. Hydrarg. gr. viii. c. Pulv. Rhei. gr. iij. ter in die—Cont. Haust. —22d Vesicular eruption from the ointment, but not copious—Slight paroxysm—Tongue deeply furred. Appetite indifferent—Bowels rather confined—Pulv. Jalap. C. ℈ij. Hirudines xii. Epigast. Cont. Pill—Etiam Haust. ut opus sit.—23d Feels quite well—no paroxysm—Tongue cleaner—Pulse 82—Cont. Pil. Hydrarg. c. Pulv. Rhei.—24th Paroxysm, but not so severe as formerly—Respiration

bronchial, but no rale—Hirudines xii. Epigast. —Cont. Alia.—25th No payroxysm—Tongue much cleaner—Appetite good—Cont. Pil.—LC.—26th No paroxysm—Tongue rather white—Pulse 88, small—Cont. Pil.—Sulphas magnesia ℥ij. q. q. mane—L. C. 29th Continues well—tongue clean—appetite good. Bowels open. Respiration quite natural—Cont. Pil. q. q. nocte. Mist. aper. amar. ℥ij. ter in die H. C.

The foregoing are to shew the necessity of the use of the stethoscope, in forming a correct diagnosis in pectoral disease, however simple. The first is a case of Bronchitis which almost in every instance at Poona, sooner or later terminates in permanent Dyspnœa, or, as it might be called, Asthma, of which the second is an example. The second and third are two shew how necessary for successful practice, it is to be guided by pathological rather than nosological characters. They are both cases of Asthma, yet the one is an inflammatory affection of the bronchial membrane, whereas the other, so far as the lungs are concerned, is purely nervous, which was evident from the respiration, as heard by the stethoscope in the intervals. Its predisposing cause we suppose to have been a weakly, nervous temperament, and its exciting, gastro intestinal irritation. Formerly in both cases, antispasmodics would have been liberally administered, with the effect of rendering the disease only more permanent. It will be observed in the detailed treatment of the last, that leeches to the epigast. and other means to relieve gastro intestinal irritation, proved the best antispasmodics. These latter remedies would, no doubt, be highly useful in the purely nervous, and in certain cases depending upon cardiac disorder; but it has been the confounding of different pathological states under one nosological term, that has thrown many valuable remedies into disrepute.

" Pray, Sir, can you tell me what is good for the Asthma ?" " Yes, if you can tell me what is good for a sore toe." Here the last question seems ridiculous ; yet in reality, it is not more so than the first.

Note.—In the course of our practice, we have found, doses of 3 grains Daturæ Stramon, twice a day, to be most successful in admit cases.

REVIEW.

TREATISE ON THE MANUFACTURE OF SALTPETRE DESCRIPTIVE OF THE OPERATIONS AND PROPER PLANS TO BE USED FOR THE MANUFACTURE OF CULMEE AND COOTEAH. BY JOHN STEPHENSON, LATE SUPERINTENDENT OF THE HON'BLE COMPANY'S SALTPETRE FACTORIES, AT BEHAR, P. P. 96 G. H. HUTTMAN, MILITARY ORPHAN PRESS.

The treatise now before us is written more with the view to practical usefulness, than for the purpose of making a display of chemical acquirement of erudition on the part of the author. Mr. Stephenson honestly avows that he might fill up many pages with theoretical lucubrations, but he has preferred giving exclusively his own experience and knowledge. He observes that it is to practical writers we look for most profit, and he is unquestionably such a one. We must confess before proceeding further, that few will rise from the perusal of his work without deriving a considerable degree of profitable instruction. It opens with remarks on the theory of the formation of nitre; but rather than offer any especial opinion of his own on " nitrification," he assumes that of M. Longcamp and Mr. Graham.

"That the sole conditions necessary for the formation of nitric acid, are porous earthy substances, containing carbonate of lime, moisture, and access of air.—That both the elements of the acid are derived from the air, and that water favours the union of the gases by dissolving them, and thus presenting them to each other in a fluid state. *Tufa*, *chalk*, and *porous carbonate of lime* in general favour the action two ways:—First, by absorbing air and water, and secondly, by presenting a base (lime) which solicits the formation of nitric acid.

The process of nitrification may be also promoted by the water containing carbonic acid, by the aid of which carbonate of lime is dissolved, and thus presented in a state more favourable to chemical action. Putrifying organic remains may be of use, by yielding an abundant supply of carbonic acid."

The above opinion accords with Mr. Stephenson's observations and practice. At page the 11th our author alludes to the Government factory at Singhea, which was established some time during the last century by the Dutch, and he states as follows :

" An average sample of the earth from Singhea factory, having been examined, produced

Saltpetre,.....	6 per cent.
Total of saline matter,.....	23 do. do.

Contrasting this with the following result of an examination of an average sample of earth from the small Native factories near Singhea, the great discrepancy will appear obvious.

Saltpetre,.....	$1\frac{5}{10}$ per cent.
Total of Saline matter,.....	5 do. do.

The 23 per cent of saline matter yielded by the earth of Singhea factory, had been accumulating since its first establishment, a period which the oldest inhabitant cannot

remember. A portion of the above saline matter is *nitrate of lime*, which is decomposed during the operations by *carbonate of potash*, contained in the vegetable ashes resulting from the fuel used in the manufacture; these ashes being previously mixed with the earth to be operated upon. The result of this decomposition of the *nitrate of lime* by *carbonate of potash* (as every scientific manufacturer well knows) is the formation of two new salts; viz. *carbonate of lime* and *nitrate of potash*—100 parts of *nitrate of lime* is equivalent to 124 parts of *nitrate* of potash or saltpetre. Hence the earth which contains the most *nitrate of lime*, of course, is most susceptible of developing and yielding saltpetre. This is a particular point for the manufacturer to keep in mind, for it is in this way that old earth, which has already yielded saltpetre, is regenerated, renovated, and rendered productive for future operations.

The section of Mr. Stephenson's work which alludes to the "development of Saltpetre" is interesting to the general reader but especially to the geologist and those who are seeking information on Medical Topography. Our author asserts that the development of Saltpetre is very abundant in most of the provinces of British India.

The development of saltpetre is very abundant in most of the provinces of British India, but certainly most prevalent in *Behar*, more especially in the two districts of *Tirhoot* and *Sarun*. The *Nooneahs* or Native manufacturers of saltpetre are very numerous in the above districts, and there is scarcely a village to be found, that has not its small saltpetre factory. But, although the soil abounds with nitre, it is not in such abundance as other kinds of saline matter, such as sulphate and muriate of soda. A sample of the soil from various places in Tirhoot, (collected in order to make an approximation to an average) was subjected to analysis, which gave a result that will shew what proportion the nitre bears to the quantity of other saline matter, and at the same time elucidate the general nature of the soil.

Matter insoluble in muriatic acid, consisting of ..	Silex, ...	50	0
Matter soluble in ditto,	Carbonate of Lime,	44	0
Matter soluble in water..	Sulphate of Soda, ...	2	7
	Muriate of Ditto, ...	1	4
	Nitrate of Lime, ...	0	9
	Nitrate of Potash, ..	0	7
		100	0

This result gives but a very small per centage of nitre in the general soil; but the earth from the native factories yields a greater proportion, because it is scraped off from places where it is known to develope itself in most abundance, such as old mud buildings, where the walls have been long used for drying *cow dung**——roads that are seldom frequented, and sterile waste grounds. On the surface of such places, the saltpetre shews itself in the form of a very thin white efflorescence, and as this forms from time to time, it is diligently scraped off, during the dry season, and collected at the factories in the neighbourhood, where it is subjected to the usual (operations of the native manufacturer *vide my paper on this subject, published in the Journal of the Asiatic Society.*) Many of these factories do not produce above five maunds in a whole season. A question here arises,—from whence then is the great annual supply obtained? I answer,—from the produce of a multiplicity of these small factories, which is brought and sold to the native saltpetre merchants of the great bazars, such as *Loll Gunge*, where it forms an aggregate, and undergoes various processes of adulteration, preparatory to being again sold to those who manufacture the raw material into *culmee*, the best kind of saltpetre, by a subsequent resolution, evaporation, and crystallization.

The earth at the Government factories in *Behar* is still richer in nitre and other salt than that of the small native factories, owing to their operations being on such a large scale, and the great length of time these operations, have been carried on†, with better skill and general management, being under European supervision.

In the northern parts of *Tirhoot* bordering on *Nepal*, are extensive sterile wastes that develope saltpetre in abundance, as well as other kinds of saline matter, such as sulphate of soda, which is always most abundant, and what is called *rehamuttee* by the Natives, from the efflorescence of which they manufacture a salt called *karrynoon* (*vide my paper on the native manufacture of this article.*) This saline matter lies in patches of various extents, and may be known from the barren appearance of the surface of the ground, which from the very circumstance of the soil containing a redundancy of these salts, is rendered unproductive for the growth of vegetable matter, and consequently is not cultivated by the *ryots* or native farmers. These patches occasionally contain a redundancy

* The dung is made into flat cakes (by women,) and stuck against the walls to dry; after which it is used as a fuel to prepare their food, giving a flavour that is much relished by the Hindoos. Baskets full of this prepared dung are regularly sold in the bazars for the purpose. This practice, I believe, contributes to the formation of nitre by supplying carbonic acid as before stated

† The government factory at *Singhea* was established some time during the last century by our Dutch predecessors.

of saltpetre: sometimes sulphate and muriate of soda is most predominant; but in all, a mixture of the above salts is always to be found.

During the rainy season, when large tracts of this country are laid under water by the rains and river floods, solutions of these salts come in contact with each other; some are decomposed, and new combinations are formed, and consequently new salts produced from these combinations. When the rains have ceased, the dry season has commenced, and the atmospherical evaporation is in full force, the redundant moisture quickly disappears. Then the saline matter (and of course saltpetre) developes itself,—most frequently in the form of a white efflorescence on the surface of the ground. Thus nature keeps operating in her grand laboratory, decomposing, recombining, and reproducing, from season to season, and from year to year; and thus she will proceed, alternately creating, preserving, and destroying, to the end of time."

Mr. Stephenson shews clearly the best method to judge correctly of the quality of the raw material Dhoah. This article is ordinarily much adulterated with sand, mud, earth, cow dung, dirty common salt, and salt called *karry-noon*. To judge correctly of *dhoah*, particular attention is to be given to the shape of the crystals.

"Crystals of saltpetre are usually in the form of six-sided flattened prisms, and whether they be large or small, this shape is generally preserved: for if a large crystal be crushed by the hand, the fragments will still bear some resemblance to the original shape. The crystals of *muriate of soda*, or common salt, are in general pretty well known, being in the form of small cubes, though they sometimes appear in a pyramidal form. The salt called *karry-noon* is anhydrous, or at most busemi crystalline, very small, of an irregular form, and more opaque than the other salts. Sometimes the quality of the *dhoah* is such, that the whole of these salts may be separately distinguished, but most frequently they are so blended with the earthy part of the adulteration, that it is difficult to distinguish the one salt from the other. The best way is to select an average from the bulk, and taking a handful, spread level as large a surface as the hand will admit, and, as the eye runs over it, endeavour to judge the proportion which the saltpetre bears to the matter with which it is adulterated, keeping in mind the shape of the crystals as above elucidated. The moisture can be more easily judged of, for a person can at once see whether the article is damp, a little moist, or what might be called wet. The above gradations of moisture would give from 2 to 10 per cent."

Mr. Stephenson proceeds to point out the necessity of attending to the foregoing particulars if it be the intention to purchase the raw material *dhoah*, and lays down rules how to escape the malpractices of the "native *Saltpetre Merchants*" and "*Nooneas*. He then refers to two or three methods that have been practised, both at the Government and private factories, for obtaining a regular supply of *dhoah*, and concludes this section by giving the following analyses of two kinds of *dhoah*.

"No. 1.—Analysis of an average sample of *dhoah* from upwards of 20,000 maunds, purchased from the large bazar of *Loll Gunge* in Tirhoot, at an average price of rupees 3 per maund.

Moisture,.....	10	6
Insoluble matter, (sand and mud,)..	22	7
Sulphate of soda, (*karrynoon*)..	23	8
Muriate of soda, (common salt,)....	4	2
Total impurity,.....	61	3
Nitre or saltpetre..	38	7
	100	0

The filtered solution of this sample was highly coloured brown with the earthy and other matter which it had been adulterated with, and its general appearance dirty and black coloured.

No. 2.—Analysis of an average sample of *dhoah*, from a large quantity at the factories of the *Nooneahs*, previous to its coming into the hands of the native saltpetre dealers, and therefore not adulterated.*

Insoluble matter,.....	12	0
Sulphate of soda,.....	17	1
Muriate of ditto,..	3	7
Total impurity,.....	32	2
Nitre or saltpetre,.....	67	2
	100	0

The discrepancy between the two samples is very great. But No. 1 is the worst kind to be met with, and No. 2 the best: the latter is only to be had in small quantities; the former is always abundant in the large bazars. But the per centage of pure nitre varies very much, according to the extent of the adulteration. Some kinds would give a result intermediate between No. 1 and 2, and it is very rare to find two batches of the same quality."

To secure the dhoah in the rainy season, Mr. Stephenson recommends puckah godowns;

* This sample containing no moisture.

for 20,000 maunds, the length should be 40 feet, breadth 20, and the thickness of the walls 3 feet. The roof should be strong, a flat terrace or angular. Mr. Stephenson then proceeds to give a section and explain the plan for arranging and fixing the boilers, vats, and coolers.

" A boiler made of sheet iron, 10 feet long, 8 broad, and 18 inches deep, capable of boiling 30 maunds of *dhoah* at a time. The boiler is fixed in solid brick work, and adapted for jungle grass fuel—door for fuel —brick pillars supporting the bottom of the boiler—flue 14 inches square, communicating with a chimney.

A vat, two of which are large enough to hold the contents of the boiler, each 4 feet long, 2 broad, and 4 deep. These vats are made of 3 inch plank, with the seams water tight, and the corners clampt with iron to render them stronger. The vats are necessary for the deposition of the earthy impurities, previous to running the clear liquor off into the coolers to crystallize.

A wooden crystalizing cooler, 10 by 5 feet, and 18 inches deep. Two of these coolers placed together will hold the contents of the vats. The seams of the coolers must be also rendered water tight; sometimes they are lined with lead.

A boiler of the above dimensions, with its two vats and coolers, will be found most convenient for the operations of the saltpetre manufacturers, who have differed much respecting the shape which best answers the purpose. However I am convinced (from practice) that a bolier of the above shape has greatly the advantage over those that are round and deep.

A few experiments soon convinced me, that the same quantity of saltpetre liquor could be evaporated in a flat boiler, with half the quantity of fuel that was consumed in the boiling of an equal quantity of liquor in the round deep boilers, formerly in use at the Government factories ; and a saving of 50 per cent. in fuel is not to be neglected.

A boiler of the above size made of sheet iron (which can be had in the Patna bazar) will cost about rupees 200, including all expenses, and the blacksmiths of Behar are tolerably good workmen when under European superintendence.

It will require two vats and six crystallizing coolers of the above dimensions for each boiler. Indeed one vat might be made large enough to hold the contents of the boiler, but they are much stronger and more efficient of the above size ; a large one would be liable to warp when not in use, and is difficult to keep tight,especially if not constantly kept full of water, when not at work. The reason why so many coolers are wanted for one boiler is, that it takes at least three days for a saltpetre solution to crystallize ; consequently the first two coolers are occupied for that time, and as the boiler is wrought once a day, it requires two coolers for each day's work ; but at the end of the third day, the first two coolers are emptied of their mother liquor, and crystallized saltpetre, and are then ready for holding the contents of the fourth day's boiling.

By working in this way there will be constantly two coolers ready for each day's boiling, and four occupied in the process of crystallization. By augmenting the number of coolers, the boiler may be made to boil 60 maunds, for two boilings of 30 maunds may easily be effected in twelve hours. Thus by increasing the number of coolers, the manufacturer may boil as much *dhoah* in a given time as he may think convenient. However, four boilers with six coolers for each boiler will be found sufficient for boiling 20,000 maunds in a season.

Great care ought to be taken in making these coolers and vats ; the joints ought to be well formed, and, if not intended to be lined with lead, should be so made as to admit of caulking, in case the wood should shrink with the heat of the climate.

The coolers are fixed upon stands, or forms of sufficient strength to support them, when filled with saltpetre liquor at the crystallizing point, and about two feet in height, so that the air may freely circulate, with a constant action, which is necessary to the process of crystallization.

The Native manufacturers use earthenware for the above purpose ; instead of wooden vats for the deposition of the earthy impurities, they use large deep earthen jars made of common clay of the country. The jars are supported by being sunk in the ground ; and disshaped earthen vessels two feet in diameter are used instead of wooden coolers. These are also sunk to the level of the surface of the saltpetre earth on which they rest. By this plan, however, the breakage, and consequently the wastage of saltpetre liquor, is great. This kind of earthen-ware is of a porous nature, and very frail ; its cheapness being a sufficient inducement for the Natives to use it, for they seldom can be urged to use any costly utensil, although in the long run it might produce a considerable saving. The large sort can be had for about nine rupees per hundred, and the small in proportion. But however trifling the first cost of the earthen vessels may appear, when compared with the cost of wooden vats and coolers, the latter will be ultimately found to be the cheapest, which will be more obvious after the various operations shall have been elucidated."

It appears, however, that the profits of Saltpetre depend, in a great measure, upon

the cheapness of fuel and the cost of labour. No country in the world can compete, says Mr. Stephenson, with Behar in the inexhaustible abundance, and consequent cheapness of the article fuel. The brush-wood and jungle grass, our author thinks, are not only the cheapest but the best adapted for evaporation in flat boilers. The workmen are accustomed to this sort of fuel, and Mr. Stephenson thinks they can better regulate the heat by feeding the boiler with handsfull at a time exactly as it is wanted.

"The nice regulation of heat necessary for the evaporation of the solution of saltpetre could not be so well effected with any other kind of fuel. I have tried common coal *by way of experiment*, with a boiler fixed properly with a grate, in the European manner; but the native workmen could make nothing of it, and it would have taken my constant attendance for months, to have trained a man into full practice for the purpose. Those who have had the labour of teaching native workmen in such like practice, can only know how difficult such a task is to accomplish; yet notwithstanding their dislike to any thing new introduced, patience and a steady perseverance will remove any obstacles of the above nature; for, when these stubborn workmen perceive that a European is determined to have the plan done in his own way, they then *and only then*, set about it with a good will. My own plan with them was to strip off all superfluous dress, and set to work in good earnest myself, and go through the whole manuduction, and manipulation, having the men at hand looking on. By doing this, and proving to them the practicability of the thing, I generally succeeded in convincing them, that there were few difficulties in doing what they had not done before."

We cannot agree with Mr. Stephenson in the general tenor of the foregoing paragraph. We are satisfied, from what we have seen of the natives, that they are the most tractable beings in the world, and they imitate to minutiæ. But the teacher requires talent and patience. To concur with Mr. Stephenson, would be to say that India can never be civilized, or in other words that its inhabitants are not susceptible of the improvement of civilized countries, and therefore these blundering and tedious methods in the arts and mechanics must remain in *statu quo*. The following observations on the value of native labour are important to the political economist.

"Labour may also be had very cheap in the saltpetre districts—*coolies** may be had for three rupees a month, and if hired by the day only, six pice, equal to 2¼d. English. When these people are employed by their own countrymen, their wages are much less, but then they are most frequently paid in kind. Occasionally the native manufacturers pay them half in money, and the other half in rice or various kind of grain according to mutual agreement; but the paying-in-kind system seems to be the general custom. At any rate, the native manufacturer can always obtain labour much cheaper than his European competitor, and however the *coolies* may be ill treated by their own task masters, they prefer their service to that of the European, although the latter generally treat their workmen with more indulgence, and always give them a higher rate of wages. It is rather difficult to give a reason for this preference, but it is no doubt owing to superstitious prejudices.

To work a boiler of the size previously mentioned will require one *sirdar* and three common *coolies*, and allowing that the former has four, and the latter three rupees a month, the whole amounts only to 13 rupees, equivalent to 26 shillings English. It is said that one British labourer will do as much work in a day (in his own climate) as four *coolies*. But in a climate like India, an Englishman would sink under the usual work that his fellow Indian labourer effects, especially over a steaming saltpetre boiler. From 1824 to 1828, I paid my workmen in London at the rate of 16 shillings a week, equal to £3-6*s*. per month. Now, assuming that one British labourer could do as much work as four Indian coolies (which I very much doubt), the discrepancy in the cost of labour between England and India is still very great, being nearly three to one in favour of India."

Mr. Stephenson concludes his work with some observations on the exertions necessary for the manufacturing of Culmee Saltpetre from the raw material called Dhoah.

"As saltpetre requires only its own weight of water at the boiling point, or a temperature of 212° of Faren. for its solution (and this I have found by practice to be correct), whatever the quantity to be operated upon, at one boiling, may be thought the most convenient, the same quantity of water (by weight) ought to be used for the purpose. But as the *dhoah* in general contains a proportion more or less of earthy insoluble matter, some allowance must be made in proportion to the adulteration. This is easily done, for, of course, the per centage of earthy matter, which the article contains, has been previously ascertained. The necessary quantity of water can first be weighed into the boiler, and then mark the height at which it stands on the side of the boiler. A wooden gauge is sometimes used for this purpose, so that the future boilings or changes of water may be regulated without the trouble of weighing.

* A low caste of degraded human beings, *The Helots of India*, whose lot is to do all manner of labour, and many of them are without caste.

Having put the necessary quantity of water into the boiler, now light the fire, and continue the heat till ebullition takes place. During these necessary preliminaries, the dhoah to be boiled is weighed off, and got ready for putting in to the boiler. It is necessary that one man should stand ready to assist the solution, by stirring the liquor with a wooden stirrer made for the purpose. The water being brought to the boiling point, and all things ready, the *dhoah* saltpetre may be now put into the boiler by small quantities at a time. This quickly reduces the temperature, so that the fire may be urged strongly, in order to keep up the heat for evaporation to take place, and the liquor again brought to the boiling point ; after which the fire may be reduced so as to keep it gently boiling and so regulated that the evaporation may proceed at an uniform temperature.

After boiling half an hour, a sample may be taken out in a small saucer-shaped dish, and set aside to cool for a few minutes, after which the crystals should be examined. The taking out of these samples in the above way, ought to be continued during the evaporation, till the crystals, examined from time to time, acquire that firmness which is necessary for good *culmee* saltpetre.

By dipping the end of a small rod in the solution and putting a single drop on a cool common plate, the proper crystallizing point may be easily ascertained by observing if it suddenly forms an uniform small mass of crystals : by inclining the plate, it will be quickly seen what quantity of liquor runs from it. The grand point to arrive at, is for the drop to form instantaneously a solid mass without any liquor running from it. When this is observed, the evaporation has been carried far enough, and the fire must now be stayed, and a few *seers* of clear cold water thrown over the surface of the solution in the boiler, and the whole suffered to remain tranquil for about 20 minutes.

The cold clear water, thrown over in the above manner, has the property of rendering the crystals of *culmee* saltpetre large, firm, and transparent—a person thoroughly acquainted with the chemical process of crystallization will readily conceive the cause of this effect, which is on the principle that all crystals contain more or less water in their composition, which is taken up during this beautiful process. But the water, in this case, has also another use. It aids the throwing down of the earthy impurities, which by this means more easily subside to the bottom of the boiler.

After remaining tranquil for the space of fifteen or twenty minutes (according to the good or bad quality of the dhoah operated upon), the liquor may be run off from the *boiler* into the *vat*, and again suffered to remain quiet for about half an hour, or till all the earthy particles have subsided, and the liquor has become clear enough to be drawn off into the *cooler*. During the subsiding in the vat, it will be necessary to exclude the external air as much as possible, by nitre bags, or mats made for the purpose. This prevents the liquor from cooling too fast before running it off into the cooler.

When the liquor in the *vat* is thought to have become clear, by the impurities subsiding to the bottom of the vessel, it may now be drawn off into the cooler in order to crystallize, and as the liquor gradually cools, the beautiful process of crystillization commences. It begins first at the bottom, and sides of the cooler ; but to assist the process, a number of small branches of trees (the bark peeled off) are suspended on cross pieces of wood, with the ramifications spreading a little below the surface of the liquor. This affords a kind of nucleus for the crystals to form and adhere to, thereby causing a better produce ; at the same time it aids and facilitates operation in general. One particular point must be carefully attended to during the process of crystallization, viz. a free circulation of *air*, but not so strong as to cause the least ripple on the surface of the liquor. The least agitation by any cause is highly detrimental to the process. All the above points ought to be carefully attended to ; otherwise a good crystal will not be obtained. They are based upon long continued practice, and the result of experiments made for the purpose, with care and accuracy, to arrive at the best practical methods for conducting the manufacture with advantage.

After the liquor has been drawn from the boiler and vat, the sediment must be immediately taken out and preserved, for the manufacture of *cooteah* saltpetre, which is separated from that now under description, and will be subsequently noticed,) and the sides and bottom well washed, and freed from any portion of saline or earthy matter attached during the boiling. By this means the boilers and vats are better preserved ; for, if suffered to remain in the boiler, the bottom is liable to be destroyed by being burnt away by the heat necessary for the evaporation.

It will require from three to five days, (according to the state of the weather and temperature) for the whole produce of saltpetre to crystallize—Its progress may be observed from time to time, by taking out a little with the hand, and noticing the gradual formation and growth of the crystals, as also their size, firmness, and transparency, which constitute the good or bad quality of saltpetre. But in doing this, care must be taken to disturb the liquor as little as possible, for (as I have before observed) the least agitation is detrimental to the process.

When the crystals are all formed, (which a person will soon learn to know by observing the progress of the process a few times,) the mother liquor may be run off from the cooler and returned to the boiler for a second boiling of *dhoah* saltpetre*. After the mother liquor has been well drained off from the crystals, the latter may now be taken out into baskets, in order (if necessary) to be washed with clear cold water. This operation requires great care; for, if not properly done, the saltpetre will be in some measure dissolved, and the appearance of the crystals injured—to say nothing of the waste in such a case.

* In this case, whenever the mother liquor is used, of course less water will be required for the solution, and an allowance made accordingly.

A basket of the shape and size described in the annexed sketch, I have found the most effective for the operation of washing. The basket is made of bamboo split very thin, and wrought close enough to prevent any of the small crystals being washed through. It will hold enough of the article to be washed at a time when filled to the level of the sides. It presents a large surface of the article, only three inches thick, and when the water is poured over it, (by means of an earthen *gilah* with a nosle like an English watering pot,) the fluid passes quickly through the layer of saltpetre, but slow enough to dissolve the extraneous salts which is the object of the operation of washing: by this means the saltpetre is rendered more pure for the market standard of *refraction*, as the per centage of purity is commercially termed."

The foregoing will give our readers some idea of the value of Mr. Stephenson's labour. There is an honesty and zeal about our author which shews that he desires to diffuse his own valuable experience for the public benefit, undisguised by ostentatious pretensions. He possesses data on which he might have written a treatise of a more costly appearance, but not of greater practical utility. We therefore strongly recommend his work for public support.

THE INDIA JOURNAL OF *MEDICAL AND PHYSICAL SCIENCE.*

Calcutta, January 1, 1835.

It is a practice sanctioned by time and general adoption, that the conductors of public Journals hail the opening year with congratulation to those connected with the publication, and tender their acknowledgments for the favors received during the expiring year. We shall follow this approved usage, not only because it is approved, but because we really feel ourselves bound to acknowledge the debt of gratitude we owe for the liberal encouragement we have experienced during the commencement, and therefore the most critical period, of our editorial vocation. To our contemporaries, both of town and country, we are under particular obligation for the flattering and cheering testimony they have borne to our exertions. To our Subscribers also we are indebted for regular and continued encouragement. But we cannot find words adequate to the expression of our obligations for the readiness with which our contributors have rallied round our standard. Without their able support all our labour would have been fruitless; but supported as we are, we sanguinely hope to proceed in our work with renewed vigour.

In order to render our Journal as deserving of encouragement as possible, we intend to spare no pains or expence which can in any manner add to its usefulness. With this view we have placed ourselves in communication with the learned societies of Britain, France, and America, and have forwarded copies of the Journal to the leading professors and literati of those countries. This measure, whilst it will enrich the sources whence we draw useful and interesting information for our pages, it is to be hoped, will excite in those countries a lively interest in the success of our labours.

In the mechanical department too, it will be perceived, we have made some changes which we thought would improve the general appearance of the work, and have added to the title of the Journal the word *Physical*, which, we conceive, more fully indicates its objects.

In conclusion we feel it our duty to observe, that if this Journal is acknowledged to be the means of promoting the cause of Medical Science and humanity in a country where such means are far from being generally available, we trust our professional brethren will bear in grateful remembrance, the zeal and talents of its public-spirited founders—Messrs. Grant and Pearson. It is they who have tilled the ground and planted this fruitful tree: we are but the favoured reaper of the harvest.

CONSTITUTION. OF THE MEDICAL DEPARTMENT IN HIS MAJESTY'S ARMY.

We now fulfil our promise of resuming the above subject, and proceed to offer a few observations on the changes introduced by the late Duke of York, for improving the Medical Department of His Majesty's Army.

In 1804 the following warrant was issued by order of His Majesty—George Rex. "Whereas we have approved of an arrange-

ment for increasing the advantages and improving the situation of medical officers of our army; with the view of encouraging able and well educated persons to enter into and continue in that line of our service, our will and pleasure is that, from the 25th of December next, the following regulations do take place on the above head." From the tenor of this quotation it is evident that His Majesty would not have issued such an order if the evil effects arising from the smallness of pay and inferiority of rank had not deterred able and well educated persons from entering into or continuing in that line of His Majesty's service. In consequence of the above order, the allowances of the medical officers were placed on the following scale.

A regimental surgeon was to receive 11*s.* and 4*d.* net, exclusive of 1*s.* for a horse. After seven years' service, this pay was to be augmented to 14*s.* and 1*d.* per diem, net, after twenty years' to 18*s.* and 10*d.* net. The full pay of a deputy inspector of hospitals was to be 25*s.* and after twenty years' service it was to be augmented to 30*s.* The full pay, annexed to the appointment of the inspector, was to be 2 £.

Besides the above, forage money at the undermentioned rates was granted to each rank respectively.

The first column of the following table exhibits the number of rations for forage per diem, and the second the amount for 200 *days at* 6*d. ration, after deducting* 1*s. in the* £.

	£	s.	d.
Inspector of hospitals	4	19	0	0
Deputy do. of do.....	3	14	5	0
Physicians	3	14	5	0
Surgeons	2	9	0	0

In addition to the foregoing the following were the rates of lodging money directed to be paid to the medical staff when employed in the districts of Great Britain, having no house or apartments furnished to them.

	£.	s.	d.
Inspectors, deputy inspectors, and physicians..	54	12	0
Surgeons.....	39	0	0

The medical staff were also allowed to draw forage in kind, or receive an allowance for the number of horses allowed to each rank, as follows.

The inspector of hospitals,..	4	horses
Deputy ditto of ditto,.....	3	"
Physician,..	3	"
Surgeon,.....	2	"
Assistant surgeon,....	1	"

To the senior medical officer was allowed the same proportion of rooms, as well as furniture, coals, and candles, whilst residing at the hospital, as a field officer in the barracks.

For the carriage of regimental baggage, the surgeon and assistant surgeon were permitted to draw two shillings per mile. If the medical man moved on any duty from place to place, travelling charges on the following scale were sanctioned.

	Lodging money per week.	*Travelling expences.*
Inspector or the deputy,	1 guinea	1s. 6d.
Surgeon....	15shilgs.	1s. 4d.
Assistant.....	10s. 6d.	0 10d.

Such then were the arrangements adopted in 1805, which produced a decidedly beneficial change in the character of the medical department of the army, and hence a manifest improvement in the health of the troops. A well paid medical department then was, in the end, an economical arrangement. This induced the Government to improve the condition of military surgeons still further, by giving them high rank, as well as a higher rate of pay. Soldiers being a class of men who measure the respect due to an individual only by the scale of deference paid to him by the officers of the army, and it being necessary that the medical officer be respected and obeyed by the soldiery, it was found advisable to extend to the medical gentleman, while attached to the army, the same respect which was paid to him in civil society where medical skill is duly appreciated. Another consideration led to the same conclusion. The medical officer attached to the army is, like the other officers, exposed to all the perils of war, without enjoying the opportunities of signalizing himself by those feats of valour, which raise the soldier higher in estimation than all the wealth which he can accumulate. He is likewise

constantly exposed to the baneful influence of pestilential diseases, and yet neither the compiler of public official records, nor the historian, ever pays the tribute due to such perilous undertakings, which in the case of the soldier is always awarded with a liberal hand. On these grounds His Majesty was pleased to allow the medical officers certain military rank which might raise them in the estimation of the army. The deputy inspectors were ranked as lieutenant colonels, inspectors as colonels, and directors as junior generals.

In regard to the attainment of rank in the medical department, although length of service would have great weight in the nomination to the higher grades of the service, yet the choice does not necessarily depend on the claims which mere seniority might seem to put forth. To confer advancement, merely with reference to seniority as an invariable rule for promotion, would involve the probability of the important duties of the director and superintendent falling into the hands of persons who, though grey with years in the service, possess not that practical knowledge, that professional tact, and those studious habits, which alone can secure efficiency in the execution of such important duties as the economical administration of the army hospital, and other equally responsible charges. Moreover, if it be admitted, that the care of the sick, in all its various ramifications and particulars, is a system which depends on one uniform principle, and requires that every arrangement which relates to it be entrusted to the direction of one individual, under whom the different executives are to perform their respective duties, it is unquestionable that the director must possess, not only a full knowledge of the duties of his office, but also sound judgment and extensive general information, an energetic mind susceptible of lively impressions, and a heart capable of feeling a tender regard for the state of the sick; in order that his spirit and high sense of the sacred duties entrusted to him be diffused among his subordinates, and animate them to energetic exertions, which alone can secure his medical arrangements from embarrassments, and from producing injurious consequences.

None but those who had seen much regimental service, both in the field and cantonment hospital, and had thereby acquired a thorough knowledge of the medical concerns of the army, and who, by a combination of such experience and talents, had become fully competent to discharge the onerous duties which devolve on the senior medical officer, especially in time of war, could be appointed to high posts of medical authority. The directors and inspectors were therefore selected only from the body of regimental surgeons, who alone could be considered as fully acquainted with the wants of an army, the customs and manners of the soldiery, the routine of military duties, and the economical management of troops. The adoption of this system was evidently productive of great advantages. It engendered a desire of professional improvement, by holding out to the junior officers the prospect of speedy advancement to higher ranks, and impressed upon their minds, that the attainment of those ranks was to be the reward of diligence and talent.

Let us now contrast this state of things with that which previously existed. The army medical board then consisted of a physician general, a surgeon general, and an inspector general of hospitals. The physician general had no experience at all in the army, the surgeon general and the inspector general were both surgeons in the guards, and their service had been confined to London. In such a board as this, what knowledge of the physical constitution peculiar to the soldier, and of the nature and forms of their diseases, could be expected to exist? What estimate could such a board form of the number and extent of diseases likely to occur under particular circumstances, during the movements of an army in the field, and at the different stations? How could such men be expected to calculate with exactness what was essential to the public service, what kinds and quantities of medicines would be consumed within any given time, or on any particular occasion, and the apparata which would be required for an army hospital; or to direct the economical arrangement, in all these and other particulars connected with

the movement of troops? These important duties had been placed exclusively in the hands of a high and privileged class—the physicians of the regular universities, and the associates of the College of Physicians of London. The universities of Cambridge and Oxford, which conferred the degree of M. D., were however the worst medical schools in England. The students enjoyed a reputation only for classical and biblical learning, and were well known not to possess that practical knowledge, which those who had been taught in the great hospitals of London, Edinburgh, and Dublin, did possess. The regimental surgeons, who had, at the bed-side of the sick, witnessed the development and progress of diseases in a variety of constitutions, were not only thoroughly acquainted with every kind of disease which, from time to time, appeared in extensive hospitals; but their knowledge in both the branches of medicine, far exceeded that of the physicans who had acquired their education at the universities.

It was therefore a highly judicious order which directed that, in future, none but those who had served for some years in the important situation of surgeon to a regiment, should obtain the rank of director or inspector. This was a rule fundamentally good; for it insured, to a certain extent, experience and acquaintance with the army diseases, the manners and habits of the soldiers, and the economy of routine in the management of troops. In an age in which every branch of knowledge and science was rapidly advancing towards perfection, it was a melancholy reflection, that so useful and important a science as that of medicine should alone have been allowed to retrograde. The complete success of the new arrangement was therefore as necessary for the medical department of His Majesty's army, as the rising sun is to the expulsion of the gloomy mists which hide the fair face of nature in the hour of night. But this could not be effected without the aid of men, who had incurred the expence and labour necessary for the acquisition of that correct and systematic education, which alone can qualify a man for a proper discharge of the important and sacred duties of the physican and the surgeon, and who were willing to devote their talents to the investigation of the causes upon which the preservation of health depended. Such an investigation was an imperative duty of the state, and it required the ruling authorities to remunerate men capable of the task, as an inducement for them to accept commissions in the service. The pay of the medical staff was therefore once more increased. The director general was to receive 2,000 £ per annum, the principal inspector 1,200 £, the inspector of hospitals 1 £ 17*s.* and 11*d.* per diem, and his deputy 19 shillings.

Experience, it is true, pointed out the necessity of the foregoing arrangement; but it was obvious that all surgeons, however talented and meritorious, could not attain to the higher ranks, and there would still exist circumstances of a disheartening nature, to discourage medical men in the efficient discharge of their duties. In justice to all, and with the view to guarantee to every rank a fair remuneration for service, it was determined, that, in lieu of rank and promotion, surgeons and assistant surgeons should be paid and pensioned, according to length of service, on the following scale, exclusive of forage money, rations, house-rent, &c. &c.

	£	*s.*	*d.*
Surgeons, per diem.....	1	14	3
After 20 years' service....	0	18	10
After 25 do. do.....	1	2	0

His Majesty was moreover graciously pleased to add an order dated 16th February 1829, that, beyond the charges of mess board and servants' allowances, no other item of charge or subscription was to be considered imperative on any regimental officer, and that all married officers were to be considered exempt from the annual mess subscription: but this exception was not to prevent him from inviting, when he himself dined at the mess, one or more friends if he paid for them. With regard to the rates of passage money (to Ceylon for instance) a surgeon was to be allowed 100 £ and one servant. It was also decided that the half pay of an inspector was to

be 20 shillings per diem, and that of a deputy, after 20 years' service, 15 shillings, and of a regimental surgeon 10 shillings; besides which his rate of pension was to be increased according to length of service. The widow of an inspector was to receive 70 £; of a deputy, 50 £; of a surgeon, 45 £; and of an assistant surgeon, 40 £. Their children were also supported entirely from the royal bounty. Thus medical men were provided for in every situation and under all circumstances, whether in peace or war.

In 1830 another warrant was issued by His Majesty's command for further improvements, and regulation of appointments and pay of the medical officers attached to the army. They were thenceforward to be distinguished by the following ranks and commissions; viz. assistant surgeon, regimental surgeon, staff surgeon, assistant inspector of hospitals, deputy inspector general of hospitals, and inspector general of hospitals. The rates of daily pay were to be regulated by the time during which the officers of each class should have served upon full pay. After ten years of service an assistant surgeon's pay was raised from 7 shillings 6 pence, to 10 shillings; that of a regimental surgeon, after a service of twenty years, to 1£. 2*s.*; of the staff surgeon to 1£ 3*s.*; of the deputy inspector to 1£ 10*s.*; of the inspector to 2£, and, when in the field with 10,000 men, to 3£, with 5000 men, to 2£ 15*s.*, and with any less number, to 2£ 10*s.* The above rates of pay were exclusive of the colonial allowance for horses, rations, travelling charges, house-rent, &c. &c. In addition to the above, His Majesty, by a warrant dated in July 1830, directed that, in order to prevent the employment of European soldiers, in a hot climate, upon any duty not strictly military, the following allowances of male black servants be sanctioned, viz.

	Servants.
Inspector general....	3
Deputy do.	2
Assistant inspector	2
Surgeon	2
Assistant surgeon	1

There are other advantages regarding wine, &c. which for want of space we cannot here enumerate. But what has been said is sufficient to prove that, with the view to secure the services of talented and respectable men, there has been a gradual improvement of pay and other advantages to the medical officers in His Majesty's service. We must now conclude, but we promise, in a future number, to trace the history of the medical department in the Honorable Company's service.

THE ANATOMY AND PHYSIOLOGY *OF THE LIVER.*

By Francis Kiernan, Esq.

Member of the Royal College of Surgeons, late Teacher of Anatomy.

(Condensed from the Philosophical Transactions.)

The following is an elaborate and valuable paper on the anatomy and physiology of the liver. It has been condensed by the editor of the Medical Gazette from the original in the Philosophical Transactions. The omissions in this paper have been certain passages which relate to the opinions of other writers; but the views of the able author himself are fully given. In this country the diseases in the organic texture of the liver are so numerous, and appear in such a variety of forms, that this paper, with the illustrative plate attached to it, cannot but prove acceptable to our readers. The original plates were not coloured: these, however, have been coloured by an able and scientific friend, according to Mr. Kiernan's description. We have caused this to be done, not only to give our readers a clearer view of the anatomy of the liver, but also to afford them an early opportunity of judging as to our progress in this department of our work, and the improvements that may yet be expected to appear in the pictorial embellishments of the journal. Our object in making these improvements is to render our journal as worthy of the able lucubrations of our talented correspondents as it is possible, with the limited resources at our command. This we conceive to be the only means by which the profession in Europe can become

acquainted with what their brethren in India can accomplish.

The following pages contain an account of my own investigations of the structure of this organ. The description I propose to give will embrace, 1st, that of the lobules, the manner of their arrangement, their connexions with each other and with the vessels; 2dly, the surfaces of the liver and the distribution of the vessels; and 3dly, the structure of the lobules.

Of the Lobules.—The hepatic veins with the lobules present a tolerably accurate resemblance to the trunk, branches, and leaves of a tree (fig. 4.) The lobules may be compared to the leaves. The substance of the lobules is arranged around the minute branches of the veins in a manner which may be compared to the disposition of the parenchyma of a leaf around its fibres. The vessels in which the minute veins terminate may be compared to the branches of the tree, and these vessels, by their junction, from the trunks. The hepatic veins may be divided into two classes; into those veins contained in the lobules, and those contained in canals formed by the lobules. The first class is composed of the interlobular branches, one of which occupies the centre of each lobule, and receives the blood from a plexus formed in the lobule of the portal vein. The second class of hepatic veins is composed of all those vessels contained in canals formed by the lobules. Numerous small branches, as well as the large trunks which terminate in the inferior cava, are included in this class; they all resemble each other in being contained in canals, and they differ from the vessels of the first class, which are contained in the lobules. The intralobular veins terminate in some of these vessels, and not in others; these vessels therefore admit of being divided into two sets; 1st, those in which the intralobular branches terminate; 2d, those in which no intralobular branches terminate. The lobules are arranged around the veins composing the first set, the bases of these bodies resting upon them: they may be called the sublobular hepatic veins, this term being applied to them merely to distinguish them from the trunks which compose the second set, and on which the bases of the lobules do not rest. The branches of the second set are formed by the junction of those of the first; the canals containing the former differ in the manner of their formations from those containing the latter. Every branch of the hepatic veins contained in the liver belongs to one of these two classes of vessels.

Each intralobular vein is composed of a central vessel, and of from four to six or eight smaller vessels, which terminate in the central vessel. (Fig. 4, *e*, *f*.) The intralobular veins invariably correspond in form with the lobules, the substance of which is arranged around them; and as these vessels resemble in some degree the fibres of a leaf, so sections of the lobules made in the direction of the vessels assume a more or less foliated appearance. (Fig. 4. *b.)* The lobules are not, however, flattened bodies like leaves: for, as the smaller veins enter the central vein in every direction, so small processes project in every direction from the lobules, the number of processes being equal to the number of veins terminating in the central vein.

The form of the lobules will be now easily understood; their dimensions are known to all anatomists. They are small bodies, arranged in close contact around the sublobular hepatic veins, each presenting two surfaces. One surface of every lobule, which may be called its base, rests upon a sublobular vein, to which it is connected by the intralobular vein running through its centre, the base of the lobule thus entering into the formation of the canal in which the sublobular vein is contained. (Fig. 4, *c*.) The canals containing the hepatic veins may be called the hepatic-venous canals or surfaces; and as the base of every lobule rests on a sublobular vein, it is evident that the canals containing these veins are formed by the bases of all the lobules of the liver. The external or capsular surface of every lobule (fig. 1, *d*.) is covered by an expansion of Glisson's capsule, by which it is connected to, and separated from, the contiguous lobules, and in which branches of the hepatic duct, portal vein, and hepatic artery, ramify. All the lobules resemble each other in their general form, and they are all of nearly equal dimensions; they appear larger when the section is made in the direction of the hepatic veins, and smaller when in the transverse direction. This is most apparent in that state of the liver usually called the nutmeg liver. In a longitudinal section of a lobule, the intralobular vein is seen running through its centre; and if on the surface of the section five of the projecting processes of the lobule be seen, five smaller veins will also be seen, one occupying the centre of each process, and all terminating in the central vein. (Fig. 4, *f*.) In a transverse section of a lobule, the divided extremity of the intralobular vein is seen in the centre, and three or four processes of the lobule are seen shooting out in different directions. (Fig. 5, *b*.) The vein being thus always situated in the centre, it sometimes happens that on

Fig. 1. A longitudinal section of a small portal vein and canal; the lobules are in a state of anæmia.

a, a. Portions of the portal canals, from which the vein has been removed. The parietes are composed of lobules, similar to those of the external surface of the liver, separated from each other by fissures and spaces.

b. The portal vein; the lobules and fissures are seen through its coats.

c. Mouths of interlobular veins, which, arising immediately from the portal vein, enter the spaces without forming a plexus. This portion of the vein, giving off no vaginal branches, and consequently having no capsule, resemble in these respects an hepatic vein.

d. Two larger orifices. These are the mouths of vaginal veins which enter the canal, and divide into two, three, or more interlobular branches.

e, e. The orifices of small portal veins, which enter other canals.

f. Vaginal branches arising from the vein and forming a plexus on that side of the canal occupied by the duct and artery. These branches are seen dividing into branches which enter the spaces covered by the duct and artery.

g. The hepatic duct, giving off vaginal branches.

h. The hepatic artery, giving off vaginal branches.

Fig. 2. Represents the interlobular ducts entering the lobules, and forming the lobular biliary plexuses.

a. Two lobules.

b, b, b. Interlobular ducts.

c, c, c. The interlobular cellular tissue.

d, d. The external portions of the lobular biliary plexus injected.

e, e. The intralobular branches of the hepatic vein.

f, f. The uninjected central portions of the lobules.

No such view of the ducts as that represented in this figure can be obtained in the liver. The interlobular ducts are, in the figure, seen anastomosing with each other: I have never seen these anastomoses, but I have seen the anastomoses of the ducts in the left lateral ligament, and, from the results of experiments related in this paper, I believe the interlobular ducts anastomose. I have never injected the lobular biliary plexuses to the extent represented in the figure.*

Fig. 3. Representing the interlobular branches of the portal vein, the lobular venous plexuses, and the intralobular branches of the hepatic veins of three lobules.

a, a, a. The interlobular veins contained in the spaces.

b, b, b. The interlobular veins which occupy the fissures, and which, with the veins in the spaces, form venous circles around the lobules. This is the appearance which the venous circles present when examined with a common magnifying glass; they are, however, formed by numerous, and not by single branches, as represented in the figure.

c, c, c. The lobular venous plexuses, the branches of which communicating with each other by intermediate vessels, terminate in the intralobular vein. The circular and ovoid spaces, seen between the branches of the plexuses, are occupied by portions of the biliary plexuses, constituting the acini of Malpighi.

d, d, d. The intralobular branches of the hepatic veins, in which the vessels of the plexuses terminate.

Fig. 4. A longitudinal section of sublobular hepatic veins, with lobules arranged around them.

a, a. Sublobular hepatic veins.

b, b. Longitudinal sections of lobules, presenting a foliated appearance.

c, c. The bases of the lobules resting on the sublobular veins, and forming the canals containing them. The bases of the lobules are connected to the sublobular veins by the intralobular veins.

d. The external or capsular surfaces of the lobules.

e, e. The intralobular veins running through the centres of the lobules.

f. The projecting processes of the lobules with their veins terminating in the central vein. The intralobular veins correspond in form with the lobules, the number of smaller veins being equal to the number of processes.

g. The mouths of intralobular veins opening into the sublobular veins.

Fig. 5. *a.* A transverse section of a lobule.

b. The divided central intralobular vein.

c. The smaller veins, terminating in the central vein.

Fig. 6. Represents a transverse section of a small portal canal and its vessels. The lobules are in a state of general congestion.

a. The portal vein, a great portion of which is in apposition with the interlobular spaces on the parietes of the canal.

b. The interlobular branches arising from the trunk and entering the spaces, with the branches of the duct and artery, without ramifying in the canal. On this side the vein resembles an hepatic vein, in having no vaginal branches.

c. Two vaginal branches arising from the vein, and dividing into interlobular branches on that side of the canal on which the vein is separated from the spaces by the duct and artery. On this side, the vein, giving off vaginal branches, and being separated from the parietes of the canal by the capsule and vessels, resembles the larger portal veins.

d. The duct giving off vaginal branches.

e. The artery giving off vaginal branches.

f. Three vessels, a duct, vein, and artery, entering each interlobular space on the surface of the canal.

Fig. *. *a.* Angular lobules, in a state of anæmia, as they appear on the external surface of the liver.

b. The interlobular spaces containing the larger interlobular branches of the hepatic duct, portal vein, and hepatic artery.

c. The interlobular fissures, in which the smaller interlobular branches of the hepatic duct, portal vein, and hepatic artery, ramify.

d. Intralobular veins occupying the centres of the lobules.

e. Smaller veins, terminating in the central veins.

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* See editorial note, last page.

the surface of a section of the liver, veins are seen in some lobules and not in others: this appearance is caused by the instrument, which, passing obliquely through these lobules, divides some vessels, which thus become apparent, and passes either above or below others.

The superficial differ in one respect from the internal lobules. In the latter, the intralobular veins commence at a certain distance from the surface of these bodies, the substance of which completely surrounds them, except at the bases of the lobules, where the veins make their exit to terminate in the sublobular veins. By superficial lobules are meant, not those only which form the convex and concave surfaces, but those also, the capsular surfaces of which form the canals containing certain branches of the hepatic duct, portal vein, and hepatic artery, and the canals containing the trunks of the hepatic veins, all these canals being tubular inflections inwards of the superficies of the liver. In all the superficial lobules the intralobular veins commence immediately at the surfaces; these lobules appearing less perfect in form, or less developed than those of the interior, or as if their upper portions had been removed, giving to the surfaces of the organ the appearance of surface of a section. The knowledge of this peculiar form of the superficial lobules enables us, in injecting the hepatic veins, to limit the injection to this system of vessels, which is effected by withdrawing the syringe when the injection appears in minute points on the surface of the liver. If the injection be propelled from the hepatic veins into those portions of the lobular venous plexuses immediately surrounding the intralobular veins, the first stage of hepatic venous congestion will be simulated: this is effected by withdrawing the syringe when the injection appears in small isolated patches on the surface. The next stage of congestion will be simulated by propelling the injection until the patches partially coalesce, and become continuous with each other; and finally, the appearance of general congestion is produced when the injection passes into those branches of the portal vein which ramify in the intralobular fissures. Occasionally double lobules, or lobules having two intralobular veins, are observed on the surface.

Mascagni, adopting Malpighi's view of the arrangement of the lobules, compares the liver to a bunch of grapes; and this anatomist and Bidloo have represented the lobules appended to the extremities of the vena portæ. As certain branches of this vein first ramify between the lobules, and finally enter them, these bodies may be represented as appended to its extremities: and although every lobule receives branches from this vein, yet a certain number only are clustered around its trunks, with which they have no immediate connexion; whereas the base of every lobule in the liver is in contact with, and connected to, an hepatic vein.

That essential part of a gland is undoubtedly its duct; vessels it possesses in common with every other organ; and it may be thought that in the above description too much importance is attached to the hepatic veins: but relations, similar to those which exist between these veins and the lobules, do not exist between the latter and the ducts, or between them and any other set of vessels; nor is there the same exact relation between the ducts and lobules as between these bodies and the hepatic veins; for a lobule with six projecting processes may have three times that number of ducts ramifying on its external surface, whereas the same lobules will have but six minute veins, one in each process, all of which terminate in the central intralobular vein.

Of the Surfaces of the Liver.—The surfaces of the liver are, 1st, the external surface; 2ndly, the portal surfaces or canals, at which the vessels enter the organ; 3rdly, the hepatic-venous surfaces or canals, at which the vessels make their exit.

Of the external surface.—Examined on the external surface of the liver, the lobules present every variety of form; but in the subject they may all be more or less angular, and in another rounded. They are separated from each other by fissures, which, at the angles of the lobules, dilate into small triangular spaces; they may be called the intralobular fissures and spaces; they contain the intralobular branches of the portal vein, hepatic artery, and hepatic duct, ramifying in a fine cellular tissue continuous with Glisson's capsule, which, with the vessels, constitutes the capsules of the lobules. Fig. 7, *b* and *c*. When there is but little cellular tissue in the capsules, the lobules are closely compacted together; they are therefore angular in form, and the fissures and spaces are less apparent. (Fig. 7.) Hence it is that these bodies have been described as having six or more sides by Malpighi, Soemmerring, and others. But when the cellular tissue composing the capsules is more abundant, the fissures, and particularly the spaces containing it, are wider and more apparent; the lobules are less closely connected, they touch each other by two or three points only, and consequently approach more or less to the circular or oval form. Hence they have been described as, and present very much the appearance of, convolutions and undulating bands. They are generally angular where they are most numerous, as in the thickest part of the liver; in these parts also they appear

smaller, for, being arranged vertically to the surface, their extremities alone are seen. At the edges of the liver, where they are fewer in number, and less closely connected, they are rounded; and lying in an oblique or parallel direction to the surface, they appear larger. They are more angular in children than in adults: in some animals, as in the cat, they are always more angular than in others, as in the rabbit, hare, and sheep; their angular or rounded form always depending on the quantity of cellular tissue composing Glisson's capsule. They appear smaller, are more equal in size, and regular in form, on the convex than on the concave surface of the liver, where they are arranged obliquely, the hepatic veins for the most part running nearer to this surface. An intralobular hepatic vein occupies the centre of each superficial lobule. If the extremity alone of a lobule reach the surface, a mere point will be seen in its centre; if a greater portion of the lobule be seen, two or three dark lines will be observed uniting together at a dark point; this point is the central intralobular vein, in which the smaller veins terminate. (Fig. 7, *d* and *e*.) Frequently, lobules with eight or ten projecting processes are found on the surface, each process sending a vein to the intralobular vein running through the centre. It is evident that these superficial lobules are less perfect in form, or less developed, than the internal lobules, in which the veins are wholly surrounded by the substance; and that a superficial lobule with eight or ten processes, is, accurately speaking, half a lobule lying parallel to the surface. Lobules lying parallel to the surface may be always seen on the under and posterior part of the left lobe; such lobules are larger and more numerous in the liver of the sheep, rabbit, hare, and squirrel, than in the human liver. A striking difference will be observed if, in the liver of the sheep, these parallel lobules on the posterior part of the concave surface be contrasted with those forming the lobulus Spigelii. The difference between the superficial and internal lobules is satisfactorily proved by injections. If the hepatic veins be injected with blue size, and the portal vein with red, the blue will be found on the surface of every section, in the centres of the lobules, separated by the substance of these bodies from the portal veins occupying the interlobular fissures. If these lobules were, like those of the surfaces, perforated from one extremity to the other by the intralobular veins, the blue and red injection, or the interlobular hepatic veins and the interlobular portal veins, would, in some places at least, be seen in contact, which is never the case

The veins and fissures cannot be always seen without the aid of a magnifying glass; slight pressure, however, by which the blood is propelled into them, will generally make them visible. They may be always seen after a few hours' masceration in water, or they may be shewn by mercurial or size injections. For this purpose a liver containing the smallest quantity of blood should be chosen; and on this account the liver of the sheep is preferable to the human liver, the latter being generally in a state of congestion. The vena cava should be opened as its posterior part, and the mercury should be poured from a quill into the hepatic vein of the lobulus Spigelii. With slight pressure the mercury will appear in the centres of the lobules, in the form of lines, stellæ, or points, surrounded by what has been called the red substance of the liver. If the liver contain much blood, the experiment may not succeed, for the blood will be propelled to the surface, and the vessels within the lobules will be no longer distinguishable from those between them. If the pressure be discontinued, the elasticity of the vessels will cause the mercury to retreat from the surface; if the pressure be renewed and slightly increased, the mercury will pass from the intralobular branches of the hepatic vein into the interlobular branches of the hepatic vein, and will be seen in the centre and at the circumference of every lobule. If the mercury be thrown into a branch of the portal vein, it will appear in the interlobular branches situated in the fissures and spaces. In the portal veins, which ramify in the cellulo-vascular capsules of the lobules, the mercury will have a dull appearance; it will be of its usual brilliancy in the intralobular veins, which, contained within the lobules, have no cellular tissure surrounding them.

Of the portal canals.—These canals commence at the transverse fissure, where they are continuous with the concave surface of the liver, they contain the hepatic ducts, the portal veins, the hepatic arteries, and the vaginal branches of all these vessels with the nerves and absorbants, enveloped in a sheath of cellular tissue, first described by Glisson, and called Glisson's capsule. If a longitudinal section of one of these canals be made, and the contents be dissected out, lobules, spaces, and fissures, will be seen, arranged in a precisely similar manner to those already described on the external surface. The lobules forming the parietes of the canals are similar to those of the surface, being, like them, perforated by the intralobular veins; they may be called the portal canals or surfaces, the portal vein being the largest vessel contained in them. These canals, and those con-

taining the large hepatic trunks, are formed by the capsular surfaces of a limited number of lobules ; the canals containing the sublobular-hepatic veins are formed by the bases of all the lobules.

Glisson's capsule is not mere cellular tissue ; it is to the liver what the pia mater is to the brain ; it is a cellulo-vascular membrane, in which the vessels divide and subdivide to an extreme degree of minuteness ; which lines the portal canals, forming sheaths for the larger vessels contained in them, and a web in which the smaller vessels ramify ; which enters the interlobular fissures, and, with the vessels, forms the capsules of the lobules ; and which finally enters the lobules, and, with the blood-vessels, expands itself over the secreting biliary ducts. Hence arises a natural division of the capsule into three portions, a vaginal, an interlobular, and a lobular portion ; and as the vessels ramify in the capsule, their branches admit of a similar division.

At the transverse fissure, the duct, vein, and artery, divide into branches, which enter the portal canals. These branches divide and subdivide into smaller branches which enter smaller canals, and every canal, however small, contains one principal branch of each of these vessels ; frequently, however, two ducts and two arteries are contained in the same canal. To these larger vessels the terms of hepatic ducts, portal veins, and hepatic arteries, may be confined, in order to distinguish them from the branches.

The excreting ducts are composed of the hepatic ducts, contained in the canals, of their vaginal branches, also contained in the canals, and of the interlobular branches, which, arising from the vaginal branches, ramify in the interlobular fissures. The interlobular ducts enter the lobules, in which they form plexuses. These plexuses may be called the lobular biliary, or secreting biliary plexuses, the ducts composing them being the secreting organs of the bile. The excreting ducts and their branches are invariably accompanied by the arteries and portal veins and their branches, the former conveying blood to their coats, the latter conveying it from them: a duct is never unaccompanied by an artery and vein, the vein being always a branch of the portal vein. The veins and arteries also enter the lobules. The veins form plexuses, the branches of which terminate in the intralobular hepatic veins ; from the blood circulating through the plexuses, the bile is secreted. The lobular arteries are exceedingly minute, and few in number ; they are the nutrient vessels of the lobules, and probably terminate in the plexuses formed by the portal vein. From the ducts, veins, and arteries, therefore, three sets of branches arise, namely, the vaginal, the interlobular, and the lobular branches.

(To be continued.)

OBSERVATIONS

ON THE

INFLUENCE OF A TROPICAL CLIMATE UPON THE CONSTITUTION AND HEALTH OF *NATIVES OF GREAT BRITAIN.*

By Henry Marshall,
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Table I.—Abstract of Mr. Annesley's General Returns of the sick of the Native Troops of the Madras Army, for the year 1821.

Strength.	Deaths.	Ratio of deaths per cent.
82,046	1929	2·3

If we deduct the deaths from cholera, which was epidemic in 1821, namely, 830, from the whole number, the annual ratio of mortality by the ordinary diseases will be 1.4 per cent.

Table II.—The following statement will show the Mean Annual Strength of the Native Troops of the Madras Army, the number of Deaths, and the Ratio of Deaths per cent. from the years 1827 to 1830.

	Mean strength.	Deaths.	Ratio of deaths per cent.
1827,	84,128	1362	1.6
1828,	76.224	1129	1.4
1829,	71,945	841	1.1
1830,	67,106	709	1.
Mean of 4 yrs.,	74,850	1010	1.3

Table III.—From the following Returns it may be concluded that the ordinary annual Ratio of Mortality, among the inhabitants of two large districts in the Peninsula of India, is about 1.3 per cent.

	Population.	Deaths in one year.	Ratio of death per cent.
Madura,.....	245.654	3933	1.595
Dindigul,.....	295,654	3438	1.163
Mean result of both districts	541,308	7371	1.361

(*Vide* Medical, Geographical, and Agricultural Report of a Committee appointed by the Madras Government, &c. of which Dr. Ainslie was president.)

From pretty extensive data, *(Vide* Edin. Med. Journal Nos. 116 and 117,) it may be inferred, that the mean ratio of mortality among the army in the united kingdom is about 1.5 per cent. per annum ; hence it will appear that the ratio of mortality of these different armies in their respective native climates, when not exposed to the hardships of war, is nearly the same. The men of both armies are about the same age, and in almost every other circumstance influencing health, they are similarly situated. So that the difference of the ratio of mortality, which occurs among native troops and British soldiers in India, may be attributed principally

to the influence of a tropical climate acting upon the constitutions of natives of a temperate region, or, in other words, to the change of circumstances to which natives of Great Britain are exposed in an Indian climate. The amount of the increased ratio of mortality among British soldiers in a tropical climate may, therefore, to a certain degree, be deemed a measure of the deleterious influence of that climate.

What is the mean ratio of mortality among the King's Army in the East and West Indies? Lieutenant Tulloch, in his very elaborate paper, (United Service Journal, for February 1835,) estimates the mean mortality in India at about 6.3 per cent.; a conclusion which is probably very near the truth. His estimate is corroborated by Dr. Burke's paper, (Ed. Med. Journal, vol. xli. p. 386,) on the mortality among his Majesty's troops in India (Bengal?) from 1826 to 1830, from which it appears that the ratio of mortality during that period was 5.7 per cent. But as soldiers who die by accident or at a distance from head-quarters are sometimes omitted in medical returns, it may be presumed that Dr. Burke's account of the ratio of mortality of his Majesty's troops in Bengal is a little understated. I shall, therefore, assume 6 per cent. per annum, as the mean ratio of the mortality of British troops in India, which is about four times that of the mortality for troops in Great Britain, and of native troops in India. Mr. Tulloch estimates the mean mortality among troops employed in Jamaica and Honduras, during a period of seventeen years, at 11.5. Fifteen years of the above period the nation was at peace. This estimate of the mean mortality is not quite so high as it is stated by Dr. Adolphus in his numerical returns of the diseases and mortality among the troops in Jamaica during a period of three years, as will appear by the following statement: *(Annesley's Researches, &c.)*

Table IV.—Statement of the average Strength and the amount of Mortality which occurred among the troops in Jamaica, from 1823 to 1825.

	Mean strength.	Died.	Ratio of deaths per cent.
1823,	2468	143	5.3
1824,	2880	209	6.9
1825,	2682	759	28.2
Mean of 3 years,	2676	370	13.8

With respect to the Windward and Leeward Island station, I have good reason for assuming that the mean ratio of mortality which occurred among the troops employed in that command during a period of nineteen years, or from 1810 to 1828, was 11.3 per cent. per annum.

These statements enable us to estimate the ratio of mortality which is likely to occur among troops employed in our East and West India possessions. It is greatly to be regretted that the data on which these calculations are founded are not more ample; but till such time as materials for constructing on a more extended scale are available, these conclusions may be considered sufficiently accurate as an approximation to the truth. It is only by means of statistics that we can estimate the salubrity of different situations, and decide upon the value of the various means which may be adopted for preserving the health of soldiers.

The human constitution seems to be unable to bear great changes of climate with impunity,—whether that change be from a temperate to a tropical climate, or *vice versa*. The term climate is here used in a medical sense, which comprehends a large portion of the agencies which affect the health of man; namely, the temperature and meteorological states of the atmosphere, together with the condition of the soil, surface, elevation, diet, and productions of a country.

The physical constitution and mental prerogative of man enable him to exist, and to perpetuate his species in every climate which produces vegetation, and in a great variety of situations. For this quality, which remarkably distinguishes him from many other species of animals, he is supposed to be chiefly indebted to the enduring properties of his corporeal frame. But, notwithstanding these enduring qualities, with which man is in general more or less endowed, there seems to be a remarkable adaptation of the constitutions of certain races of mankind to the circumstances of particular climates. The indigenous races of tropical climates, as well as the indigenous races of temperate climates, seem to be peculiarly fitted by nature for inhabiting and peopling the respective portions of the globe which they occupy.

When a body of troops is transferred from Great Britain to a tropical climate, India for example, the men undergo a diminution of muscular power, the sick list increases from 4 or 5, to 10 or 12 per cent. and the ratio of mortality rises from 1.5 to 6 per cent. per annum. British soldiers will surmount considerable fatigue for a short time in equatorial regions, but not by any means with a similar impunity from disease as in this country. Excessive exertions in warm climates, never fail to add greatly to the sick list. M. Coulomb, a celebrated French military engineer, gives a very decided opinion upon the diminished muscular power or endurance of fatigue of Europeans in warm climates. He says, "I have executed extensive works at Martinique by troops when the thermometer rarely stood below 68° Fahrenheit, and I have executed the same kind of work in France, by troops, *and I* am

convinced that, under the 14th degree of latitude, where the men are constantly bathed with perspiration, they are not capable of performing half the quantity of work which they can execute in France." [Memoires de l'Institut National, Vol. ii.] M. Coulomb was a man of great accuracy of observation, and, as he had extensive practical experience, his opinion deserves much attention.

Diseases occur of various kinds and degrees little known in the native climate of the troops, which add greatly to the amount of the sick list, and eventually to the mean ratio of mortality. The healthy functions of some of the organs of individuals seem to be intimately connected with the climate in which they were born, and in which their ancestors had for a longer or shorter period resided. Those organs which are most susceptible of the deleterious influence of climate, and the concomitant causes of disease, soon become deranged in their functions, and with those the functions of other organs sympathise, and, eventually, structural derangement occurs, which is often incurable. Can art do anything which would materially modify or abate the predisposition to disease among the natives of Great Britain in warm climates? What are the means which ought to be adopted for that purpose? These two questions imperiously demand the attention of a prudent and humane government.

Does the great susceptibility of the natives of high latitudes to diseases in a warm climate diminish by length of residence? This question comprehends the specific import of certain terms frequently employed by authors in regard to the human constitution, such as that of being "seasoned in warm climates," and "become assimilated to a warm climate," and to give a decided reply to it would require an extensive series of statistical facts. It is by successive efforts that the science of statistics, in regard to the mean mortality of mankind in particular climates, can be brought to any degree of perfection, and consequently, the first step, however significant it is of itself, on a subject of this kind may be useful. In our endeavours towards the accomplishment of a statistical result, one circumstance is essentially requisite, namely, to arrange the existing materials, so as to indicate the real state of our knowledge on the subject, and consequently to ascertain what is required to be more extensively and accurately observed. For this purpose, I shall adduce the few materials in my possession, although I am well aware that they are so limited as to be totally inadequate for affording specific conclusions of any importance; but if I should by this attempt be so fortunate as to excite others who are better furnished with facts, to arrange and publish them, my object shall be fully attained. To render numerical returns of disease and mortality of much use, they ought to consist of large masses of facts, so as to destroy minor inequalities, and by that means to establish general principles upon an extensive basis.

In the Madras Courier there is a letter published, bearing date October, 21, 1816 in which a statement is given of the mortality which "occurred in the space of three years in a class of the European society, the most exposed to the climate." It is presumed this return has a reference to the officers of the Madras army.

Strength.	Died.	Ratio of mortality per cent.
1366	115	8.4

or not quite 3 per cent. per annum.

Supposing the above were divided into three classes, the casualties have occurred in the following ratios.

1st Class. Under 12 years' residence in India.	2d Class. Above 12, and not exceeding 15 years' residence.	3d Class. Upwards of 15 years' residence.
4.7 per cent. per an.	3.12	2.5

TABLE V.—Numerical Return of the men belonging to the 13th Regiment, which arrived in India in May 1828, together with the number of volunteers and recruits which joined, and the deaths that occurred till the 31st December 1829, being a period of six years and eight months.

Class.	Date of Arrival.	Strength.	Died in 1823.	1824.	1825.	1826.	1827.	1828.	1829.
	1823,	653	45	231	115	37	13	18	12
Volunteers,	1823,	620	3	105	32	15	3	8	6
Recruits,	1824,	13	..	2	4	..	1	..	..
Recruits,	1826,	600	..	..	..	79	25	52	48
Volunteers,	1826,	29	..	..	..	3	..	1	1
Recruits,	1827,	135	..	..	..	..	17	15	30
Volunteers,	1827,	7	..	..	..	..	..	..	..
Recruits,	1828,	34	..	..	..	..	..	..	1
Volunteers.	1829,	20	..	..	..	..	..	..	6
	Total,		48	338	151	134	50	94	104

The mean annual mortality of the 13th Regiment from the year 1823 to 1829 (seven years) was 19.6 per cent.

TABLE VI.—Showing the Annual Decrement by Death of the 653 men who arrived in India with the Head-Quarters of the 13th Regiment in 1823.

	Strength.	Died.	Ratio of deaths per cent.		Stations where employed.
1823,	653	45	6.9		Calcutta.
1824,	610	231	38.	34 1	Burmese territory.
1825,	379	115	30.3		Do.
1826,	264	37	14.		Berhampore.
1827,	227	13	5.3		Dinapore.
1828,	214	18	8.8		Do.
1829,	196	12	6.1		Do.
1830,	184				

The successive annual strength of this return is somewhat higher than it ought to be, in consequence of the invalids annually discharged not having been deducted, which I was unable to do for want of materials, and this is the case with all the subsequent returns except that of the 19th Regiment.

TABLE VII.—Showing the Annual Decrement by Death of the 620 Volunteers which were received into the 13th Regiment in 1823.

	Strength.	Died.	Ratio of deaths per cent.		Stations.
1823,	620	3	0.4		Calcutta.
1824,	617	103	17.	11.6	Burmese territory.
1825,	512	32	6.2		Do.
1826,	480	15	3.1		Berhampore.
1827,	465	3	6		Dinapore.
1828,	462	8	1.7		Do.
1829,	454	6	1.3		Do.

For the information of non-military readers I may state, that, when a regiment is ordered home from India, the efficient men are commonly permitted to transfer their services to another corps serving in India, and as the transfer is quite voluntary, those individuals who avail themselves of this permission are denominated "Volunteers." This class of men is commonly farther advanced in life than the men which compose corps recently arrived from England, and consequently they are in that respect better able to endure fatigue. This circumstance is rendered evident by comparing the last two tables. The mean annual ratio of mortality of the men which arrived with the head quarters of the corps during the period they were actively employed in the Burmese territory was 34.1 per cent., while the mortality among the volunteers was 11.6 per cent.

With respect to the mean age of the men of corps at the time they embark for India, I may quote a passage from a memorandum furnished to a Finance Committee of the House of Commons by the Quarter-Master General.

"There are four regiments now (1828) on the point of embarkation for India, and are at this moment composed of men whose average ages are as follows:—26th Regiment, 24 years and 6 months; 28th Regiment, 21 years and 4 months; 61st Regiment, 21 years and 7 months; 72d Regiment, 20 years and 8 months.

(To be continued.)

EXPERIMENTS ON THE COLOURING PRINCIPLE OF THE BLOOD.

It is probably fresh in the memory of most of our readers that in July last we reviewed Dr. O'Shaughnessy's paper on the blood, calling forth a reply from that physician, which appeared in our August number. The Doctor said he did not consider himself called upon to enter into a chemical discussion with us, as our review had denoted a total want of prac-

tical knowledge of the subject; instead, therefore of entering into a controversy with us regarding the existence of the supposed new substance in the blood, he wished to refer the question to the home authorities, and leave the decision of the points at issue to other and abler critics. The Medical Gazette to the end of July has been just received, and Dr. O'Shaughnessy will find the question has been settled a little earlier and in a different manner from what he anticipated. It is rather a curious coincidence, that while we were reviewing Dr. O'Shaughnessy's paper in July last, Brett and Bird of Guy's Hospital were publishing the result of their investigations; which have led to a conclusion precisely similar to our own. We beg however to assure Dr. O'Shaughnessy, that we do no quote this article in any other spirit than that of a duty we owe to the public, of publishing the result of a careful investigation on the nature of the colouring principle of the blood.

To the Editor of the Medical Gazette.

Sir,—In a number of the Lancet for February last there appeared an account of a new principle, said to have been discovered in the blood by Dr. O'Shaughnessy, and which he has named Sub-Rubine: his method for obtaining the same was also detailed, together with its properties. We have since that time taken the opportunity of repeating those experiments, and of carrying out the enquiry as to the true nature of the substance in question. The result of our investigations has led us to take quite a different view as to the chemical characters of this colouring principle, and to render it a matter of very great doubt in our minds whether it can with truth be enlisted among the already, we think, too crowded ranks of organic principles. It seems, indeed, to us to be nothing more than the peculiar red colouring matter of the blood, known among chemists by the title of hematosine. Our reasons for entertaining such an opinion are based upon the following experiments instituted with great care on several specimens of healthy blood, and to which, should you deem it of sufficient interest, we shall be obliged by your giving publicity.—We are, sir,

Your obedient servants,

R. H. Brett,
Golding Bird.

Guy's Hospital,
July 7th, 1835.

The mode recommended by Dr. O'Shaughnessy for obtaining this peculiar substance, is to deprive the coagulum of blood of its fibrin by kneading it in a muslin bag. To the colouring matter thus separated alcohol is to be added, and the whole thrown upon a muslin filter: the turbid fluid which comes through is to be boiled, by which means it becomes trransparent, and of a deep claret colour : upon cooling it becomes again turbid, from the deposition of red flocculi. The re-application of heat again produces a clear solution, undergoing the same changes by subsequent cooling. These phenomena may be alternated indefinitely. The deposit, when collected and dried, is said to be soluble in diluted alcohol, infusible, leaving a very minute earthy residue when calcined; insoluble in absolute alcohol. The fixed or essential oils, when deposited on cooling from its alcoholic menstruum, are instantly re-dissolved by the addition of nitric acid in so small a proportion as 1 drop to 1000 of the mixture. The solution was rendered turbid by ferrocyanate of potass or træ. gall., and unaffected by currents of oxygen, hydrogen, nitrogen, sulphuretted hydrogen, or carbonic acid gas. Having noticed so far the experiments of Dr. O'Shaughnessy, we shall now proceed to detail our own, drawing from thence what appear to us legitimate conclusions :—

1. A portion of clot, from which the greater part of the serum had been drained, was agitated with diluted alcohol. The more fluid part was then decanted and subjected to a boiling temperature; it became of a much darker tinge, approaching to blackish brown. When the whole was thrown upon a filter of bibulous paper, a clear fluid, possessing an inconsiderable reddish tinge, slowly came through: this fluid deposited nothing even after some hours' reposure.

2. The fluid obtained in the last experiment was divided in two portions ; one was evaporated to dryness ; the residue possessed the odour of substances undergoing the panary fermentation. When calcined on platinum foil, a red coloured ash was obtained, readily soluble in diluted muriatic acid with slight effervescence, yielding a deep blue-coloured precipitate with ferrocyanate of potass; its acidity having been previously nearly neutralized by a drop or two of ammonia. The second portion of the alcohol fluid was treated with acetic acid and ferrocyanate of potass, without the application of heat. A considerable turbidity was instantly produced; it was precipitated also by corrosive sublimate. Diluted alcohol is therefore capable of retaining in solution, even in the cold, a minute portion of colouring matter with oxide of iron and earthy salts ; and probably a portion of lactate of soda, or, as some consider it, an albuminous acetate of soda, as also that peculiar animal matter called by Berzelius "extrait de viande."

3. A portion of the crassamentum was enclosed in muslin, and then kneaded for some time in water, so as to remove some of the colouring matter and serum; the fluid thus procured was found to be transparent, or nearly so, when viewed by transmitted light in a glass tube of about 5 lines in diameter. To this aqueous solution about one-third its bulk of alcohol was added; but the transparency of the fluid, as examined by the above test, was not at all impaired. When, however, the aqueous fluid was much more fully charged with red particles, so as to possess a colour approaching to deep claret, the addition of one-third its bulk of alcohol caused a considerable precipitate to take place. It would appear, therefore, that the colouring matter of the blood is to a certain extent soluble in diluted alcohol in the cold.

4. When a portion of cruor which had been allowed to dry spontaneously, was boiled for some short time in alcohol, specific gravity 815, diluted with an equivalent bulk of water, and the whole thrown upon a filter of muslin, a dark port-wine-coloured fluid passed through, rapidly depositing red flocculi upon cooling, and becoming again clear upon the application of heat. When the proportion of the alcohol in the fluid was as 1 to 4, the solution obtained was much less deeply coloured, and the deposit which ensued upon cooling was proportionally less; the same was also observed when the quantity of alcohol was augmented to 3 to 1 of water.

5. A portion of the red substance deposited from the diluted alcohol by cooling, was boiled in sulph. ether, to which it imparted an inconsiderable reddish tinge. The etherial solution yielded some fatty matter by evaporation.

6. Strong alcohol, when boiled upon a portion of the same substance, became also slightly coloured, and deposited some inconsiderable flocculi upon cooling.

7. A portion of the red substance was boiled in tolerably strong acetic acid: a fine red-coloured solution was obtained. Dilution with a considerable quantity of water caused no turbidity; the addition of ferrocyanate of potass caused a copious precipitate. (In this experiment and in experiment 2, we have stated that the acetic acid and ferrocyanate of potass were employed without heat, because we have noticed that when acetic acid in a state of considerable purity is boiled with ferrocyanate of potass, a considerable turbidity is produced, even when we have had no reason to believe that any organic matter was present.)

8. Strong muriatic behaves in the same way as acetic acid.

9. Strong nitric acid, when boiled on the red substance, dissolves it with effervescence, producing a yellow-coloured solution, depositing nothing upon cooling; but when diluted with water causing a yellow precipitate to come down; the transparency being restored upon the application of heat, and the deposit again taking place as the fluid cools.

10. When nitric acid, diluted with twice its bulk of water, is employed, the red substance undergoes solution at the boiling temperature, but much more slowly than in the previous experiment. The resulting fluid is of a dark green colour, depositing a similarly coloured precipitate when diluted with water, and again becoming clear upon the application of heat.

11. Caustic potass, when boiled with the red substance, dissolves it, forming a dark brown solution, not precipitable by dilution with water, or supersaturation with acetic acid.

12. A portion of the red substance was diffused through water, and subjected to the action of a current of chlorine for some time. At first the red particles began to be dissolved, until a perfect solution of a deep red colour was effected; this red colour then passed into violet, and untimely into bluish green. At this time the fluid became turbid, and gradually suffered decolorization, leaving at last abundant white flocculi suspended through a colourless and pellucid fluid. This white deposit was collected on a filter and washed; it was exceedingly soluble in caustic alkali, even when the solution of the latter was considerably diluted. Upon neutralizing the alkaline solution with acetic acid, a deposit ensued; dissolved again by an excess of the precipitant at a boiling temperature, concentrated acetic acid dissolved the whole deposit with the assistance of heat; subsequent dilution with water caused it to be thrown down unaltered. Ferrocyanate of potass, when added in the cold to the acid solution, caused an abundant precipitation; neither strong or diluted alcohol dissolved it even at a boiling temperature; it was, however dissolved when boiled with concentrated nitric or muriatic acid, and did not suffer any marked alteration in colour. It was re-precipitated by dilution with water. When exposed to heat on platinum foil it caught fire, burning with flame, swelling up and evolving an odour of burnt horn, like fibrin, or dried cruor, when similarly treated leaving a bulky black ash; which, however, was reduced by the continuance of the heat to an inconsiderable red-coloured ferruginous ash. The clear solution, from which this white deposit had taken place, yielded by evaporation a yellowish uncrystallizable residue, consisting of chloride of iron and some earthy and alkaline salts.

Dried cruor was now subjected to the action of the same re-agents as the red substance in Experiments 5, 6, 7, 8, 9, 10, 11, 12, and with precisely analogous results.

a. Grs. 3.8 of the red substance, previously allowed to dry spontaneously, were incinerated; inflammation ensued as when fibrin or mere cruor is treated in a similar manner. By continuing the heat for some time a red-coloured ash was obtained, weighing 0.1, consisting of oxide of iron, earthy salts, &c. The same weight of dried cruor was calcined: a red-coloured ash, weighing .15, was procured. It will be observed in this experiment that the weight of the ash obtained from the dried cruor was somewhat greater than that procured from the red substance; but this is easily enough accounted for, when we bear in mind that the former contained a considerable quantity of albumen, from which it was impossible entirely to free it by mere draining, and consequently the earthy phosphates and alkaline chlorides, which exist in pretty considerable proportions in albuminous fluids, were added to the quantity of fixed ingredient naturally and properly belonging to the colouring matter; for the diluted alcohol, in which the red substance had been previously dissolved, would reject the greater part of the albumen and its salts.

b. A portion of dried cruor was boiled in successive portions of diluted alcohol until the menstruum ceased to be coloured. A very inconsiderable residue remained undissolved.

c. Four grains of dried cruor were boiled in two successive portions of diluted alcohol, each measuring 6 drachms. The quantity taken up was grs. 2.8.

d. Four grains of the red substance, previously dried on a filter, were boiled for 12½ minutes in 5 drachms of diluted alcohol: the quantity taken up was 1.2 grs. The same quantity of dried cruor, boiled for the same length of time in a similar quantity of fluid, yielded 2.2 grains of soluble matter.

e. A portion of dried cruor was boiled for some time in 5 drachms of diluted alcohol, and then thrown upon a filter of muslin: the fluid which came through deposited on cooling a precipitate weighing 4.3 grs. This last was allowed to dry on a filter, and then boiled in the same quantity of fluid for the same time: the quantity taken up was only 2.3 grs; this was again boiled in the same way, and only .3 were removed.

f. A portion of the dry red substance was boiled in water, which did not appear to take up any. When cold, the mixture was treated with a drop or two of nitric acid: no solution was effected, a small portion only being dissolved when it was boiled. Upon boiling the red substance previously in diluted alcohol, the flocculi which deposited as the fluid cooled were readily dissolved by the addition of a drop or two of nitric or muriatic acid.

g. A small portion of dried cruor, and another of the red substance, were diffused through water in separate vessels, and a current of sulphuretted hydrogen allowed to pass through for some time. The first action of the gas was to heighten the colour of the mixtures: after a short time they assumed a purplish tinge, and ultimately became of a dingy green colour. A current of carbonic acid gas was passed through similar mixtures; it also at first had the effect of heightening the colour; but after some considerable time the whole became of a dark brown.

It will now be necessary to notice in what particulars our experiments differ from those of Dr. O'Shaughnessy. In the first place, he states this substance when dry is soluble in diluted alcohol. This is true to a certain extent; but experiment *e* shews that it becomes less soluble in proportion as it has been more frequently acted upon by diluted alcohol, and subsequently dried. The mere circumstance of diluted alcohol dissolving out a red substance, when boiled upon cruor, is no proof that that substance is a distinct and separate principle from the colouring matter of blood, properly so called; for Gmelin and Tiedemann recognized long since the solubility of colouring matter in alcohol. They coagulated, by the application of heat, some blood, which had been freed as much as possible from fibrinous matter by previous agitation, and then boiled the clot in repeated portions of alcohol, until the albumen which remained undissolved was almost colourless. This experiment of theirs is of itself sufficient proof that there existed only one colouring principle in the blood, capable, indeed, of undergoing solution in alcoholic menstrua. Dr. O'Shaughnessy next affirms that the substance is infusible, and that it leaves by calcination on platinum foil a very minute earthy residuum. Now this statement is proved to be incorrect by experiment *a*, from which it is clear that a *ferruginous ash* is obtained, and that the weight of the fixed residue is not much less than that obtained by calcining an equal weight of dried cruor. With regard to the assertion that it is totally insoluble in sulph. ether, experiment 5 shews that that fluid becomes slightly coloured by being boiled with it, and that it also separates from its fatty matter, which last Dr. O'Shaughnessy denies being soluble in diluted alcohol, requiring, he says, very strong and boiling alcohol for its solution. Sulphuretted hydrogen and carbonic acid gas produce the same marked reactions upon it as upon cruor, as shewn in experiment *g*; contrary to the statement of Dr. O'Shaughnessy, who declares that they are without action upon it.

We think that upon an impartial review of the above statements and experiments, in

which the behaviour of numerous reagents on dried cruor and colouring matter, previously acted upon by alcohol, is detailed, the justice of the conclusion will be admitted, that there is no difference in either case, as regards chemical constitution. We may also admit that the colouring matter of blood is in many respects very analogous to fibrin obtained free from colour in the ordinary way, and probably consists of fibrin, inseparably united with a peculiar red colouring principle of an organic nature. Such an opinion, at least, is somewhat favoured by the experiment in which chlorine is made to pass through water holding the colouring matter in diffusion; the resulting white flocculi are in many respects analogous to fibrini, properly so called, although, perhaps, slightly modified by the action of the gas. The circumstance of fibrin, being considered as insoluble in water, has led some to deny its existence in colouring matter, and others have opined that the red particles themselves are only capable of suspension, and not of solution, in water; but inasmuch as that fluid can be freely charged with this peculiar colouring matter without having its transparency injured, as is proved by its ready transmission of luminous rays, so the argument for solution is as strong in this case as in any other where a salt or other substance is added in proper portions to water, without interfering with its pellucidity. It is perhaps impossible to explain in what manner the coexistence of fibrin and colouring matter should render the former soluble; the fact is however demonstrable; *causa latet, res est notissima.* Thus, it is quite easy to remove the greater part of the colour and moisture from a portion of fresh clot, and to leave a stringy fibrinous mass, totally insoluble in water or alcohol, hot or cold; whereas, had the same portion of clot been merely macerated in a due proportion of cold water, a perfectly transparent and deeply coloured solution would have been obtained. The same solution may also be procured from a portion of clot which has been allowed to dry spontaneously, and it must be manifest that in neither of these cases has any fibrin been removed.

It might, perhaps, be objected to the opinion that the red substance, soluble in diluted alcohol, and the colouring matter or red particles of the blood, are analogous, that in such case, the dried cruor ought to be entirely soluble in diluted alcohol; whereas there is always a portion of insoluble residue, even after repeated boilings in successive portions of the fluid. But this apparent discrepancy is readily removed when we take into consideration that it is quite impossible to separate all the albuminous matter which is diffused through the clot, and which remains as dry albumen when all the aqueous particles have been removed by spontaneous evaporation; being of course insoluble in alcohol.

We shall conclude the present paper by detailing an experiment which seems also to shew that the colouring matter of blood is united with fibrin in such a manner as to give solubility to it. If a portion of crassamentum, having what is termed the buffy coat indicative of inflammation, be transversely sliced, commencing from above downwards, these slices will be found to possess different proportions of colouring matter; as you proceed with the sections in that direction, the first slice containing the smallest, and the last the greatest proportion of colouring matter: if these slices be severally mascerated in equal proportions of cold water, the ratio of solubility will be found to be directly as the quantity of colouring matter in each. We have lately instituted a series of experiments on the action of nitric acid on the colouring matter of blood, fibrin, albumen, &c., and have obtained some curious results: these experiments we should wish to make the subject of a future communication.

FORMULARY FOR THE PREPARATION AND EMPLOYMENT OF SEVERAL NEW MEDICINES; SUCH AS *MORPHIA, CODEINE, &c.*

By F. Magendie.

Paris, 1835, 12mo. pp. 438.

We had originally intended, in reviewing the useful manual before us, to confine ourselves to the matter added in this edition; but we have been induced to depart from this our first design, partly by the fact of these additions being but few, and partly by the consideration that, as only a small proportion of our readers can be supposed to possess the seventh edition of the "Formulaire," it may be interesting to the majority, if we go farther back in our analysis. Omitting therefore, with one or two exceptions, everything contained in the first four editions, we have considered all the rest as fair booty, and accordingly proceed to present our readers with the *spolia opima* of our collation.

Resin of the Nux Vomica. A tincture is prepared of this substance, containing four grains in the ounce. It may not only be employed internally, but in frictions on atrophied or paralysed parts. This method is much used in Italy, says M. Magendie; and he has employed it a good

deal himself of late, but thinks it useful to add ammonia, as in the following formula :

Take of Tincture of Nux Vomica, an ounce ;
Concentrated Ammonia, two drachms.

It was found beneficial in the treatment of the cholera at Paris.

Salts of Strychnine. Strychnine, by being combined with acids becomes more soluble, and more active. Thus, if the patient drinks lemonade, the strychnine which he takes will be more powerful. The subcarbonate alone is scarcely soluble. The author has found marked effects produced by doses of one-twelfth of a grain of the sulphate in a case of paraplegia, and has lately obtained favourable results from the iodate, in several cases of paralysis supposed to be incurable.

Morphia, and its Salts. It appears from the researches of Seguin, Derosne, Sertuerner, Robiquet, Robinet, Pelletier, and Couerbe, that opium is composed of, 1, a fixed oil ; 2, Caoutchouc ; 3, Gum ; 4, Fecula ; 5, Resin ; 6, Lignin ; 7, Morphia ; 8, Narcotine ; 9, Narceine ; 10, Meconine ; 11, Codine ; 12, Meconic acid ; 13, Another brown acid. But, according to Robiquet's late researches, there is neither codeic acid nor codeate of morphia in opium : what had been taken for them being either an acid salt, or hydrochlorate of morphia. Morphia may be obtained directly from the capsules of the indigenous poppy, and does not differ from that which is procured from opium, either in chemical or medical qualities.

M. Blondeau, in a communication to the Royal Academy of Medicine, affirms that, by fermenting an aqueous solution of opium by means of a little yeast, a viscous colouring matter is destroyed, which sets the morphia free, and furnishes it pure, with greater facility, and in greater quantity, than by any other known method.

M. Magendie prefers the sulphate to the acetate of morphia ; partly because the acetate, when placed in contact with water, divides into two parts, a soluble superacetate, and an insoluble subacetate. The sulphate of morphia may be obtained by dissolving morphia in diluted sulphuric acid, and allowing crystals to form by evaporation. The crystals resemble those of sulphate of quinine, but may easily be distinguished by their reddening, when treated with pure nitric acid.

M. Pelletier also prefers the sulphate to the acetate of morphia, because the former can always be obtained pure, while the latter is often mixed with narcotine ; the reason being that narcotine is more soluble in alcohol than morphia. The acetate, too, is partly decomposed by the drying which it necessarily undergoes in order that it may be kept ; but the sulphate being obtained by crystallization, no sulphate is ever formed.

The sulphate of morphia is soluble in twice its weight of distilled water.

Pure Morphia is less soluble than its salts and less powerful in its effects on the animal economy. This is by no means a reason for neglecting it : on the contrary it is sometimes very advantageous, precisely on account of its comparative weakness.

M. Magendie gives morphia most frequently in the form of a pill, and in the dose of a quarter or half a grain, with the view of procuring sleep, while the patient is suffering from chronic and painful diseases. He believes, (but states his belief with some hesitation,) that the sleep procured in this manner is more durable, and more complete, than when it is owing to the salts of morphia.

The Salts of Morphia. Magendie seems generally to begin with the syrup of the acetate of morphia, and, when the patients become accustomed to its action, he then uses the syrup of the sulphate. His solution of the acetate contains sixteen grains to an ounce of distilled water, with three or four drops of acetic acid, and a drachm of alcohol. The dose is from six to twenty-four drops.

But the acetate and the sulphate of morphia may be given in quantities varying from a quarter of a grain to two or three grains within twenty-four hours ; and the author has even administered them in the dose of four grains daily, without inconvenience. Yet it appears, from another passage, that M. Magendie believes a quarter of a grain of morphia to be equivalent to a grain of the extract of opium ; for, in speaking of the extract of opium deprived of morphia, he says " On peut donner cet extrait par grains : il m'a paru que quatre grains n'equivalent point, pour l'activité, á un grain d'extrait aqueux ordinaire, et á ¼ de grain de morphine." (P. 66.) When the dose is pushed too far, the salts of morphia occasion nausea or even vomiting.

Solution of the Citrate of Morphia. The black drops, which have long been employed, consist of a vegetable acid (usually the citric or acetic,) combined with opium. The preparation called citrate of morphia, by Dr. Porter, of Bristol, contains, in addition, narcotine and all the other crystallizable components of opium. Magendie, therefore, employs a solution of sixteen grains of morphia, and eight of citric acid in an ounce of distilled water, coloured with two drachms of tincture of cochineal. The citrate of morphia is incompatible with lime water, solution of ammonia, and other alkaline substances.

Extract of Opium deprived of Morphia. The process of obtaining morphia from

opium never deprives it entirely of this alkali, and the remaining extract may therefore be used instead of common opium, but in larger doses, as above stated.

New principles discovered in Opium. These are three in number, *narceine*, *meconine*, and *codeine* : they were all discovered in 1832.

Narceine and meconine do not appear to have any effect upon the animal economy, and at present, therefore, can be considered only as chemical curiosities ; though it must be confessed that the experiments cited by our author are neither numerous nor varied enough to settle the point.

Narceine is white and inodorous, its crystals are long and circular : and it has a slightly bitter, and almost metallic, taste. It dissolves in 230 parts of boiling water, and 375 parts of cold water. It melts at 92° of the centigrade thermometer (197° of Fahr.) and is decomposed by a higher temperature. The principle characters of narceine are those which are developed by acids. When concentrated, they decompose it entirely, especially when aided by heat. When diluted with half their weight of water, they produce remarkable changes of colour. Thus, at the instant the two substances come in contact, a beautiful blue is produced ; and, if the water is absorbed by means of magnesia, or the chloride of lime, a rose colour is obtained. Hence M. Couerbe calls it the vegetable chameleon.

Codeine was discovered by M. Robiquet. He found that the muriate of morphia, prepared by Gregory's method, did not afford the quantity of morphia which it ought to have done. He suspected that it was impure, and found that its impurity was occasioned by a new substance of crystallizing in beautiful prisms, soluble in water, ether, and alcohol, and possessing very active alkaline properties. This was codeine.

This substance is insoluble in alkaline solutions ; it combines with acids, and saturates them, forming salts which are precipitated by nutgalls. Moreover, nitric acid does not redden it, and the chloride of iron does not take any particular colour from this substance.

A grain of codeine, injected into the jugular vein of a middle-sized dog, caused profound sleep ; but the animal recovered. A grain of the hydrochlorate of codeine, used in the same way, caused death.

M. Magendie has given codeine to a considerable number of patients at the Hôtel-Dieu ; and he finds that a grain, administered at once or at twice, is sufficient in certain cases to produce sleep, which in neral is calm and undisturbed, and is not followed the next day by drowsiness or a sense of weight in the head ; effects frequently produced by morphia. A grain of codeine seems to be equivalent to half a grain of pure morphia. Two grains of codeine have more than once excited nausea, and even vomiting. The hydrochlorate is much stronger. Two grains generally cause not only sleep, but vertigo, nausea, and even vomiting. But, on the other hand, when this dose was given, M. Magendie has seen facial and sciatic neuralgiæ, which had resisted every other remedy, disappear as if by enchantment.

Many patients too, who had exhausted the narcotic action of morphia and its salts, have experienced the most satisfactory effects from codeine, taken alternately with the nitrate or the hydrochlorate of this vegetable base.

The Muriate of Morphia and Codeine, or Gregory's salt, partaking, as it does, of the virtues of morphia and codeine, may occasionally be substituted for either of them.

Emetine. Under this head our author mentions some experiments made by M. Chomel upon Violine, which is nothing more than emetine procured from the root of the violet. He gave from six to twelve grains in three doses, to nine patients. In six of them vomiting was produced ; two only experienced a slight purging. One of these persons, who was suffering from diarrhœa, was cured by the third dose ; and thus, in these two cases, violine produced neither vomiting nor purging. It was administered pure to two other patients, in the dose of three grains and a half, taken at three times. In one case it caused no vomiting, but only two liquid stools. The second patient had one fit of vomiting ; and a third dose of two grains produced neither vomiting nor purging.

Veratrine. Four substances have been discovered in the seed of the Veratrum Sabadilla, namely, veratrine, sabadilline, a gum resin, and veratrine. M. Magendie has several times treated tic douloureux of the face with success, by sprinkling small blisters applied over the course of the affected nerves with one or two grains of veratrine, and repeating his dose every four or five days. He employs the same remedy, and with the same advantage in cases of paralysis of the face. The "pommade de veratrine" which he gives contains only four grains of this potent alkaloid in the ounce, and not twenty or forty, as was recommended by a certain author, who shall be nameless. It may be used internally in cases of chronic rheumatism, anasarca, and gout. When it is desirable to administer veratrine internally, the following formulæ will be useful :

Take of Veratrine, four grains;
Alcohol, an ounce.
The dose is from ten to twenty-five drops in any suitable vehicle.

Take of Sulphate of Veratrine, one grain;
Distilled water, two ounces.
The dose is a teaspoonful in an ounce or two of sugared water.

Veratrine uncombined is insoluble in water.

Veratrine (the discovery of which is due to M. Couerbe,) has not yet been used. M. Magendie has tried some experiments with sabadiline upon animals and men, but sees no reason as yet to prefer it to veratrine, under any circumstances.

Prussic Acid. M. Magendie narrates a lamentable occurrence which took place come years since in a Parisian Hospital. Our author's hydrocyanic syrup is the one commonly used; but, in the hospital, the hydrocyanic syrup of the codex is employed, which is very much stronger. Seven epileptic patients took at the same time about two drachms and six grains of the hydrocyanic syrup of the codex, and in three quarters of an hour they were no more. The moral which our author draws from this frightful occurrence is that everybody ought to use his syrup, whereas we would rather suggest, that every French doctor ought to be intimately acquainted with the codex. The physician who has but a slight knowledge of the pharmacopœia of the country in which he lives, will often find that his prescriptions are ridiculously feeble, and sometimes that they are destructively active; and will soon confess that the unpraised but necessary accomplishment which he wants, if not a branch of medical science in name, is one in reality.

Cyanuret of Potassium. This remedy has been sometimes substituted for prussic acid, on account of the facility with which the latter is decomposed. The cyanuret is dissolved in eight times its weight of distilled water, being thus transformed into hydrocyanate of potash. When dissolved in this proportion it may be called medicinal hydrocyanate of potash. The following formulæ contain these remedies:—

Pectoral Mixture.

Take of Medicinal Hydrocyanate of Potash a drachm;
Distilled water, a pound;
Lump sugar, an ounce and a half.
The dose is a tablespoonful morning and evening.

Pectoral Potion.

Infusion of Ground Ivy, two ounces;
Medicinal Hydrocyanate of Potash, fifteen drops;
Syrup of Mallow, an ounce.
The dose is a teaspoonful every three hours.

Potion containing the Cyanuret of Potassium.

Lettuce water, two ounces;
Cyanuret of Potassium, from half a grain to two grains;
Syrup of Marsh Mallow, an ounce;
The dose is a tablespoonful every two hours.

Syrup of Hydrocyanate of Potash.

Simple syrup, a pound;
Medicinal Hydrocyanate of Potash, a drachm.
This is employed, instead of the ordinary syrups, as an addition to pectoral potions.

Hydrocyanic Ether. A patient, suffering from convulsive cough, took six drops of this remedy daily in a gum mixture. The effects were satisfactory, and no complaint was made of the penetrating and disagreeable smell of the ether. But, although several other patients who took this medicine at the Hôtel-Dieu were benefited by its use, M. Magendie was obliged to discontinue its employment, on account of the insurmountable disgust caused by the smell of the mixture.

Iodine and Hydriodate of Potass. M. Magendie has not yet seen any instances of the bad effects produced by over doses of iodine, but cites many witnessed by other physicians. The majority are certainly in the right in this instance, and we believe that our author stands alone in believing in the "innocuité de cette nouvelle substance." Iodine is a valuable, a most valuable remedy, but its effects must be watched with scrupulous caution. Its power in curing syphilitic eruptions is singularly great: for this purpose we give half a grain or a grain a day, dissolved in water, with a few grains of the hydroidate of potash. Our author prefers the hydriodate of potash alone dissolved in distilled water, in the proportion of thirty six grains to an ounce: and he has given one, two, and even three, ounces of this solution in a day, without any unpleasant consequences.

Scorbutic swellings of the gums have been cured in a few days by half a drachm of this solution, taken daily. In these cases it probably acted, as it does in goitre, by contracting the ultimate ramifications of the vascular system. It is with the same view that our nature employs it in hypertrophy of the ventricles of the heart. This method, however, was not successful at the Salpetriere, where the patients are old; but has been more effective in young persons at the Hôtel-Dieu, and in private practice. When the hypertrophy is accompanied, as it often is, by acceleration of the movements of the heart, M. Magendie adds digitalis, in the following manner:—

Atrophic Solution.

Distilled lettuce water, eight ounces ;
——— orange flower water, one drachm ;
Ioduret of Potash, four drachms ;
Tincture of Digitalis, one or two drachms ;
Syrup of Mallow, an ounce and a half.

The dose is half an ounce, morning and evening, in a little water.

The following formulæ are extremely useful in chronic rheumatism and old syphilitic affections.

Ioduretted Sars parilla.

Decoction of Sarsaparilla, two pounds ;
Ioduret of Potash, a drachm ;
Syrup of Orange Peel, two ounces ;

to be taken daily, by a glassful at a time.

Ioduretted Taraxacum.

Decoction of Taraxacum, two pounds ;
Ioduret of Potassium, half a drachm ;
Syrup of Mint, two ounces,

To be taken daily, by a glassful at a time.

"I believe that I shall be useful to my brethren," says M. Magendie, "by pointing out to them a good way of curing scrofulous ophthalmia in a short time ; as this is a disease which the majority of therapeutic agents fail in combating, even the most active ones, such as blisters, and a seton in the back of the neck." [P. 241.]

Ioduretted Collyrium.

Rose water, six ounces ;
Ioduret of potassium, twenty-four grains ;
Iodine, one or two grains.

To be used four times a day.

He has rarely seen scrofulous ophthalmia even when complicated with ulceration of the conjunctiva and the cornea, resist this remedy, for more than a month : of course, it is to be combined with appropriated internal remedies and regimen.

He sometimes adds morphia to the solution.

The Iodate of Strychnine is one of the most active salts known ; a grain is sufficient to kill a large dog, with symptoms of tetanus.

M. Magendie has given it to several patients with a success which far surpassed his hopes. They were suffering from paraplegia, of long standing, and, having exhausted all known remedies, were reputed incurable. He has always administered it in pills, each containing an eighth of a grain ; beginning with one every morning and evening, and increasing the dose until eight were taken in twenty-four hour. But in this, as in all the preparations of strychnine, the greatest circumspection is necessary.

Ioduret of sulphur. An ointment, prepared with five parts of this substance to ninety-six parts of axunge, has been used for several years by M. Brett, in some cases of tuberculous affections of the skin.

Bromine. The effects of this remedy resemble those of iodine. M. Magendie gives the preparations of the former when iodine does not seem sufficiently effective, or when patients have become accustomed to its action. He uses it in scrofula, in amenorrhœa, and hypertrophy of the ventricles. The following are his formulæ ;—

Potion containing the Hydrobromate of Potash.

Distilled Lettuce water, three ounces ;
Hydrobromate of Potash, twelve grains ;
Syrup of Mallow, an ounce.

To be taken in the course of twenty four hours, by a table-spoonful at a time.

Pills of Bromuret of Iron.

Powdered Bromuret of Iron, twelve grains ;
Conserve of Roses, eighteen grains ;
Gum acacia, twelve grains ;

To make twenty pills ; two to be taken every morning and evening.

Bromine Ointment.

Axunge, an ounce ;
Hydrobromate of Potash, or of Soda, thirty-four grains.

Half a drachm, or a drachm, is to be rubbed upon scrofulous swellings.

Ointment of Bromuretted Hydrobromate of Potash.

Pure axunge, an ounce ;
Hydrobromate of potash, twenty-four grains ;
Liquid bromine : from six or twelve grains.*

To be used in frictions.

Mannite. This is one of the substances first added in the present edition. It is obtained in the following manner : The manna of commerce, known by the name of manna in the tear, is treated with boiling alcohol ; then filtered, and allowed to crystallize ; the mannite is precipitated in small needles, beautifully white. Mannite has the purgative property of manna, without its nauseous smell. The dose for children is two drachms ; half an ounce is too laxative.

Solanine. This alkali was discovered by M. Desfosses of Besancon in the Solanum Nigrum and the Solanum Dulcamara, but other people, though they have repeated the experiments, have not found the alkali. Hence our author thinks it essential 'que M. Desfosses voulût bien repéter ses expériences, afin de constater de nouveau le fait qu'il a avancé, ou bien d'indiquer à quelle circonstance il tient qu' à Paris on n'a pu obtenir de solanine." (P. 299.)

Thridace. This word is derived from θριδαξ a lettuce, and is equivalent to Lactucarium of Extractum Lactucæ. Under this head our author mentions that MM. Caventon and Boulay were not able to find any especial principle in the extract of lettuce that resembled morphia. (P. 344.) Dr. A. T. Thomson, on the other hand, tells us that a solution of lactucarium, when treated in the same manner as opium, discovers the presence of Morphia. (*Dispensatory*, 4th Edit., p. 382.)

The Salts of Gold. According to M. Chrestien (*Méthode iatraleptique*, 2d Edit., p. 398 and 399.) "The muriate of gold is infinitely more active than corrosive sublimate, but is less irritating to the gums : when administered in the dose of the tenth of a grain daily, it caused considerable fever in one case." M. Chrestien remarks, that the agitation of the pulse, that is to say, the frequency of the pulsations and the largeness of the beat (*developpement de l'artere,*) always occurs when his method is employed, (i. e. when the salt of gold is rubbed in, and particularly when

* The original has *gros*, (p. 261,) but we had not followed it ; as it is evidently a misprint for *grains*.

the muriate is used. These preparations are chiefly employed in syphilis: the dose of the muriate of gold and soda is from a fourteenth to an eighth of a grain daily; it is mixed with the powder of lycopodium, and rubbed upon the tongue and gums.

The following pills are used by M. Chrestien in scrofula, beginning with one, and increasing the dose to seven or eight a day.

Pills of the Oxide of Gold.

Take of Extract of the Bark of the Root of Daphne Gnidium, two drachms;
Oxide of Gold, prepared with potash, six grains.

To make sixty pills.

One grain of the muriate of gold and soda may be used instead of the six grains of oxide.

Dr. Niel, who has written on the employment of the preparations of gold, advises a particular method of using them, when the state of the tongue, or of the inside of the mouth, does not allow frictions to be applied to these parts. His method is as follows:

The cutis is to be laid bare on one side of the neck by a small blister, and the part is to be dressed morning and evening with a mixture composed of a grain of axunge and a grain of gold, divided by mercury: at the same time, the oxide of gold, is to be given in the form of a pill, and in the dose of a grain daily. At the end of a week, the doses of divided gold and of the oxide are each augmented by half a grain. At the end of a fortnight, as the sore begins to heal, it is stimulated with blister-ointment, and instead of the divided gold, the tenth part of a grain of the muriate of gold and soda is substituted with a little lard. The application of this ointment causes itching, but little irritation, and the quantity of muriate used in dressing may be successively carried to an eighth and even a sixth of a grain. During the whole period of the external treatment, the internal use of the oxide of gold is continued; and this treatment is to be continued for some time after the disappearance of all the syphilitic symptoms.

The second case related by M. Niel relates to a person in whom the use of the muriate of gold and soda, in the dose of the tenth of a grain rubbed upon the tongue, caused such violent irritation, that it was necessary to substitute some other manner of employing the preparations of gold. Therefore, after having applied a slip of blistering plaster upon each side of the neck, the sores were dressed, first of all with a slight layer of the following mixture:

Take of Gold divided by means of mercury, a drachm;
Axunge, an ounce.

When the sores were beginning to dry up, this ointment, with the oxide, gave way to one made with the muriate, in the following proportions:

Take of Muriate of Gold and Soda, ten grains;
Axunge, half an ounce.

The employment of these remedies was continued for four months, and the cure was perfect.

Dr. Simoneau, a physican of Florenac, having applied a seton to the back of the neck of a patient, who had serious ulcerations in his mouth, hit upon the happy idea of dressing the sore morning and evening with the muriate of gold, mingled with a little fat. This mode of treatment, which is analogous to the one employed by M. Niel, was perfectly successful.

The Salts of Platinum are prepared in the same way as those of gold. M. Cullerier has tried the hydrochlorate of platinum and soda, and its effects do not differ from those of the hydrochlorate of gold and soda.

Lactic acid. This is one of the substances added in the present edition. The existences of lactic acid was long doubtful; though acknowledged by several distinguished chemists it was denied by others not less celebrated, who believed the lactic and acetic acids to be identical. This question is now decided in the affirmative, to the great advantage of therapeutics; as it appears very probable to our author that this acid will become a useful medicine.

Method of obtaining Lactic acid. It is extracted either from milk, or from the juice of beet-root. If the latter is to be used it is left to itself in a vessel of which the temperature must always be kept between 77° and 85° of Farenheit. In a few days, a tumultuous movement, called the viscous fermentation, takes place in the whole mass, and hydrogen gas, mingled with carburetted hydrogen gas, is disengaged in great abundance. When the liquid has regained its former fluidity, and the fermentation is over, which is generally the case in about two months, it is to be evaporated to the consistence of a syrup; the whole mass is then traversed by a number of crystals of mannite, which, after being washed with a small quantity of cold water, and then pressed, are perfectly pure; the mass contains moreover, a sugar, which presents all the properties of grape sugar. The product of evaporation is treated with alcohol, which dissolves the lactic acid, and precipitates a number of substances, which have not yet been examined; the alcohol extract is mixed with water, which leaves a fresh deposit; and the liquor is then saturated with carbonate of zinc, by which a more abundant precipitate is caused than either of the others. After concentration, the lactate of zinc crystallizes: it is collected, and heated with water, to which is added animal charcoal, previously washed with hydrochloric acid; it is filtered while boiling, and the lactate of zinc separates in perfectly white crystals; these are again washed with boiling alcohol, in which they are insoluble. They are then successively treated with barytes and sulphuric acid, and the lactic acid thus obtained is concentrated in vacuo. Lastly, by shaking it with sulphuric æther, which dissolves it, some traces of flaky matter are separated. (*Annals de Chimie et de Physique*, Avril, 1833.)

A large quantity of milk suffered to ferment, and treated in the same manner, also furnishes lactic acid. M. Corriol has recognised its presence in the aqueous infusion of nux vomica.

Physical and Chemical Properties of Lactic Acid. When concentrated in vacuo till it

ceases to lose water, lactic acid is a colourless liquid of the consistence of syrup, and whose density, at the temperature of 68½° of Fahrenheit, is 1,215. It is inodorous; its taste is exceedingly acid, and comparable to that of the most powerful vegetable acids; when exposed to the atmosphere, it attracts moisture from it: water and alcohol dissolve it in any proportion.

One of its most remarkable properties and one which the physician is especially concerned in knowing, is the facility with which it dissolves phosphate of lime, particularly that of the bones.

Method of using Lactic Acid. As lactic acid is an agent in the solution of food in the stomach, M. Magendie thought that it might be advantageously employed in cases of dyspepsia, or of simple debility of the digestive organs, and has found its effects very satisfactory. He gives it in the form of lemonade or lozenges, as in the following formulæ.

Lactic Lemonade.

Take of Liquid Lactic Acid from one to four drachms;
Common Water, a pint;
Simple Syrup, two ounces.

Lactic acid lozenges.

Take of Pure Lactic Acid, two drachms;
Powder sugar, an ounce;
Gum Tragacanth, q. s.
Volatile Oil of Vanilla, four drops.

To be made into lozenges of half a drachm each, which are to be kept in a well-stopped vessel. Six of these lozenges may be taken within twenty-four hours, without inconvenience.

The facilty with which lactic acid dissolves the phosphate of lime makes it reasonable to try this acid in cases of white gravel, or phosphate of lime. M. Magendie has not yet had an opportunity of doing this, but intends it. He has also begun a series of clinical experiments with the lactates of soda, of potash, &c., but has not yet lighted upon anything worth publishing. He recommends these salts, however, to the attention of physicians.

Volatile Oil of Black Mustard Seeds. This oil, when diluted with an equal weight of alcohol, of the specific gravity of 0,828, is an excellent rubefacient, and its action is almost instantaneous. If a part is rubbed with it for a few minutes, *phlyctenæ* are soon formed, resembling those created by blisters.

It is needless to give our opinion of the work before us; its reputation is European, and the physician who has succeeded in diffusing over the civilized world, does not require our feeble praise. It would be easy, of course, to remark that some of the medicines are of doubtful merit, and that the hydrocyanic ether, which only one patient could take, and the solanine, which only one chemist could make, might, with a few others, be omitted. But, in the matter of remedies, the old rule holds good, *præstat copia quam penuria premi*; and we would admit on slighter grounds than we would expel. The only important omission that we have observed, and it is an unaccountable one, is of creosote.

Without going quite so far as our author, who asks what practitioner would now give cinchona in powder or extract, in preference to the sulphate of quinine, or salicine, we would affirm that an accurate acquaintance with the new remedies becomes every day more necessary; and we would observe, in addition, that a physician must be far indeed above or below instruction, if the study of this Formulary does not lend new vigour to the substance of his prescriptions, and new elegance to their form.

VIOLENT SECONDARY SYMPTOMS OF SYPHILIS,

CURED BY THE HYDRIODATE OF POTASH.

C. C., Esq., a gentleman of strong muscular habit, was attacked with syphilis in the north of England at the commencement of the year 1832, which was indicated by a chancre on the frænum. His medical attendant ordered small doses of pil. hydrarg. to be taken every night. Under this treatment the ulcer appeared to heal favourably. The pil. hydrarg. was discontinued before the gums were acted upon in the least. Shortly after he left the north for London, to pursue his usual occupation. After he had been in London a short time, and, as he thinks, without any impure connexion, enlargement of the groin came on, attended with a disagreeable heavy pain along the course of the lamdoidal suture.

He applied to a medical man in London, who stated that his complaint had nothing syphilitic about it; either primary or secondary. The swelling in the groin went on to suppuration, and discharged a considerable quantity of blood and matter. He was now recommended to try a voyage at sea, as it was generally found serviceable in strumous complaints. He tried the experiment, and ultimately returned to London in a state of complete emaciation; in fact, to use a common phrase, he was at the brink of the grave. This was in June 1833, the wound in the groin still discharging matter; the pain in the head insufferable. He now consulted a very eminent surgeon, who immediately informed him that his case was true secondary symptoms of syphilis.

At this moment he had enlargement of the bones of the head, periosteal nodes on the tibiæ, an eruption of lepra syphilitica nearly covering his whole body, large ulcers in the throat; in short, he was in a most horrid condition. He was ordered the pil. hyd., sub. co. cum decoct. sarsæ co., which treatment he continued till all the symptoms, except numbness and the eruption, had vanished. Since then he has suffered from enlargement of the tibiæ, which the use of mercury soon removed; but, as he informed me, he found himself more weakened by the remedy every time he used it. Such was his case at the commencement of the month of October 1834, when he applied to a friend of mine, to know if any thing could be done for him without mercury. He told him he was afraid not. My friend mentioned the case to me, and as I had frequently witnessed the magical effect of the potass. hydriod., as prescribed by Dr. Williams in cases of diseased bones, I told

him to order eight grains, three times a-day, in camphor mixture, which advice he immediately followed. He took this medicine for one month; every symptom of the malady gradually vanished, and he is now as well as ever he was in his life.—*Lon. Med. Gaz. July* 18, 1835.

THERAPEUTICS.

ON THE FEBRIFUGE PROPERTIES OF THE GUM RESIN OF THE OLIVE TREE.

By Dr. Vincent Giadorou, of Sebenico.

(Annali Universali di Medecina, June 1831.*)*

The difficulty and uncertainty in some situations of procuring either bark of sulphate of quinine, and the expence of these articles, has always made it an object to discover in febriferous situations, among the indigenous products of the country, some remedy which might answer a substitute. The prevalence of agues in the town of Sebenico and its vicinity, especially among the more indigent classes of the population, led Dr. Giadorou to inquire whether any of the indigenous plants of the country might possess such physiological and therapeutic properties as might admit of its being used as a substitute for cinchona. The tree which attracted attention as being the most abundant was the olive tree, the leaves of which had been reported by some respectable physicians to possess febrifuge properties. Dr. Giadorou, accordingly, administered a decoction of the olive tree leaves to different persons labouring under ague, and the success he represents to have exceeded his expectations: and afterwards it was given in so many cases with favorable issue, as to leave no doubt of the febrifuge properties of the olive tree leaves. An epidemic invasion of ague, which in Sebenico is endemic, in the autumn of 1830, gave still more ample opportunities of proving the efficacy of this substance.

The mode of exhibition by Dr. Giadorou was the following. The habitual dose to each adult was three times daily, half a pound of a decoction of two ounces of olive tree leaves cut or minced. In almost all the cases the fever disappeared on the second, the third, or the fifth day, from the commencement of administration. In cases in which gastric symptoms betrayed their existence, the author employed merely sea water. In cases in which it was impracticable, from the misery and indigence of the inhabitants, to prepare the decoction, Dr. Giadorou exhibited the leaves in powder in doses of from one to three drachms, according to the age of the patient, combined with a sufficient allowance of water or wine and taken every two hours during the apyrectic space. He observed that the leaves of the olive tree administered in this manner acted more promptly and energetically; since, in several adults, three ounces were sufficient to arrest the progress of the disease.

Of seventy-four cases treated in one of the aguish villages from the 12th September 1830, by the decoction of the powder of the olive tree leaves. on the 3d October, *i. e.* twenty-one days after, seventeen persons only were still affected with symptoms, and of this number several were new cases and twelve days after, there were only four cases ill.

Dr. Giadorou adds, that as he was convinced that the active principle of this vegetable ought to be found in the dried juice which naturally exudes from the bark, he administered the same year the gum-resin of the olive tree to several patients labouring under ague. The results of this trial also verified the anticipations of Dr. Giadorou, since they showed that the gum-resin posesses stiil more energetic febrifuge properties than either the decoction or the power of the leaves. An advantage peculiar to the gum-resin, according to the representations of Dr. Giadorou, is evident in one of its physiological effects; viz. that of producing, during treatment, alvine evacuations more or less frequent, and hence its admissibility in a loaded state of the tongue; and in this respect he thinks the mode of operation of the olive tree gum-resin approaches that of rhubarb,—or, in other words, it possesses a property both tonic and purgative, which is to be ascribed, he thinks, not only to the bitter principle, (*Olivile*) but to the benzoic acid which it also contains.

The gum-resin operates without inducing weakness, and it rather augments appetite; and its therapeutic effects are said to be such, as to remove the febrile paroxysm more rapidly and effectually than cinchona or the sulphate of quinine does. In two cases in which relapses ensued twelve or fifteen days after treatment by cinchona and sulphate of quinine, a relapse ensued only a month after treatment by the use of the olive tree gum; and upon the resumption of the remedy, at the second dose, the fever disappeared completely without return.

The dose in which the gum-resin was prescribed was one ounce and a half, Austrian weight, that is, about one ounce and five drachms English, divided into six parts, one of which was taken in water every two hours, in such a manner that the whole quantity was taken three hours before the period of the expected return of the assession. In cases in which the intense bitterness of the principle was an objection, a small quantity of liquorice powder was added, which has the double advantage of facilitating the reduction of the gum to powder, and disguising the disagreeable taste.

The febrifuge properties of the gum-resin are illustrated by the detail of ten cases, in which it effected complete recoveries.

ON THE TREATMENT OF TIC DOULOUREUX.

CASES OF TIC DOULOUREUX AND OTHER FORMS OF *NEURALGIA*.

By John Scott.

Surgeon to the London Hospital. London, 1834.

In this excellent little tract, the constitutional causes of the disease are arranged under five heads. 1st, plethoric state of the system; 2d, an asthenic state; 3d, a gouty or rheumatic diathesis; 4th, a disordered condition of the digestive organs; and 5th the impression of *malaria* on the system. Mr. Scott, therefore, repudiates the idea of there being such a thing as a specific for the disease, and in the early stages trusts to removing the constitutional cause. Should the disease, however, have lasted for some time, local treatment is also necessary, which, however, is by no means to be employed indiscriminately in every case. The plan which he adopted "was to keep constantly applied to the part, on a piece of flannel, an ointment composed of one drachm of tartarized antimony and an ounce of mercurial ointment, renewing it as frequently as it could be borne, the object being to produce such a degree of irritation on the skin as would insure this mercurial influence on the part. This method was attended with very considerable success." It subsequently occurred to him thst the use of an iodide of mercury would be more effectual, since the skin would be abraded more speedily. Accordingly, he applied the biniodide of mercury, iodide of mercury, or simple mercurial ointment, according to the state of the skin, "the object being to produce such an effect upon the part as would control the disease, and to keep up the impression of the remedy to such an extent, and for such a length of time as would revive the morbid condition of the nerve." In illustration of this, several decided cases were detailed. The sum of Mr. Scott's doctrine is, that when the disease depends upon constitutional causes, the removal of these early will cure the disease; that when the disease has existed for some time, local treatment combined with constitutional, will become necessary; and that when the cause is local, topical applications, such as those mentioned above, will have the desired effect.

RECTO-VAGINAL COMMUNICATION.

I have mentioned, in treating of the different diseases of the rectum, that a communication sometimes forms between the rectum and vagina. This is sometimes subsequent upon a difficult labour, just as a communication is sometimes formed between the vagina and urethra, or bladder, from the same cause.

The communication between the vagina and rectum used to be one of the opprobriums of our art, the patient's life being rendered miserable, with little or no hopes of recovery. Of late however, a simple and scientific method of relieving the patient in these cases has been contrived by Mr. Copeland, who has succeeded in curing several patients labouring under it, simply by dividing the sphincter muscle of the anus. The sphincter muscle being divided, the fæces are not retained in the rectum; they run out as fast as they enter it, so that the bowel is kept empty and contracted, and altogether in a passive state, and the communication between the rectum and vagina is thus enabled to cicatrize. I do not know whether this would answer if the communication were of large size, but I am told that it has answered very well in the cases in which Mr. Copeland has hitherto employed it. I cannot but regard the application of this operation to these cases as one of the principle improvements of modern surgery; and the simplicity of the practice forms one of its principal recommendations. Of course it can be recommended in those cases only in which, independently of the opening into the vagina, the parts are in a healthy state.—*Lon. Med. Gaz., May* 16, 1835.

TREATMENT OF SALIVATION.

In mercurial salivation, with ulceration of the gums, M. Ricord, of the Veneriens, employs the pure hydrochloric acid with the best effect. The ulcers are cleansed, and soon produce healthy granulations; the salivation ceases after the acid has been applied a few times; and in very recent affections a single application has been found sufficient.—*Gaz. des Hop.*

MISCELLANEOUS.

IMPROVEMENTS

IN THE INDIA JOURNAL OF

MEDICAL AND PHYSICAL SCIENCE.

Our subscribers will observe that we have increased the number of our pages from forty to fifty; an arrangement by which we are enabled not only to select a greater quantity of valuable and interesting matter, but to do so without any additional charge to our subscribers.

The *Indian Press*, at which our Journal has been printed, has from the first of this month been incorporated with the Bengal Hurkaru office; the resources of which, in regard to printing materials and establishment, are so great and efficient, that we have not the least doubt the getting up of our Journal will henceforth be far superior to what it has hitherto been, and consequently more de-

serving of that support with which it has been so liberally favored.

J. Grant Esq.—It will have been seen by the General Orders, that Mr. Grant the apothecary general is about to quit India for the Cape of Good Hope on sick certificate. We cannot do otherwise than express our deep regret at the cause which will deprive us of the presence of this distinguished and talented member of our literary circle. All who have the privilege of Mr. Grant's acquaintance must have observed in him a warm, affectionate, and generous heart, and while these virtues are united to an enlightened intellect, the whole is clothed in sweet humility. We ardently hope that he and his amiable family may derive every enjoyment which the abstraction from the busy scenes of a public life is likely to bestow ; and most cordially wish them a safe and speedy return to the land in which Mr. Grant is so justly distinguished not only for splendid talents, but as a strenuous opposer of public wrongs, an early advocate of the freedom of the press, and one who was the foremost in every cause which had for its object the civilization of India. As a medical man Mr. Grant is one of no common order. He had only required opportunity to develope his great acquirements : this, however, was unfortunately denied him, until he conducted, in co-operation with his talented colleague, Mr. Pearson, the Journal of Medical Science, wherein he displayed such professional knowledge and elegance of composition on all subjects as justly entitled him to rank with the most celebrated medical periodical writers of the day.

Pay to Officers in the Indian Army According to length of Service. —We learn that the above proposition has been rejected by the Board of Controul, but upon what grounds we are ingorant. The proposition may have been mixed up with conditional arrangements to render its rejection expedient ; but it appears to us that any plan which has for its object the reward of faithful and long services, independently of promotion which is so tardy in regard to some of our veteran officers, is surely equitable and much to be desired by those who can adequately estimate the sacrifices the British officer has to make during his exile in a tropical climate.

THE PARENTAL ACADEMIC INSTITUTION.

None can feel deeper interest in the welfare of this noble institution than ourselves who have for these four years watched its progress. On the first occasion of attending the public examination of this school we had ample proofs of the efficiency of the establishment and the abilities displayed by the pupils. We have since attended all the annual examinations of this school, and can bear testimony to the progress that has been made each successive year, not only in the talents of the pupils, but also in improving the system and tone of education, until we are induced to say the establishment has almost reached perfection. The children seem to attend school, not as was wont to be the case in the days of Bushby, with fear and trembling, but with the pleasing motive of contending for the prizes and gaining the approbation of the teachers. A spirit of emulation seems to lead them on to exertions, and the cheerful contentment visible in their looks verifies the epithet *parental* assumed by this institution.

The pupils are taught Latin, French, Geometry, Algebra, Natural Philosophy, Trigonometry, Astronomy, Book-keeping, Moral and Political Philosophy, Political Economy, principles of Christianity, History, &c. From the above enumeration it will be perceived that the plan of instruction embraces the highest branches of education. The pupils of this seminary are distinguished for composition and essay-writing. Exercise in this useful branch leads to the study of the most approved writers, and induces one to acquire much general information from which the students naturally select the most useful and important facts for the purpose of treasuring them up in the memory. It gives them a habit of thinking correctly, and, of expressing their thoughts with force and perspicuity.

We were glad to observe the children of officers of high standing among the pupils, and, considering the care and attention, which are bestowed at this seminary on the

morals, comforts, and health of the children, we strongly recommend it to parents in the Medical Service.

THE UPPER ORPHAN SCHOOL, KIDDERPORE.

We have the pleasure to publish a circular with a few of the subscribers' names attached proposing annual meetings and public election of the members of the General Management of the Upper Orphan School. To such a proposition as this we conceive no advocate of open and free enquiry can object.

To the Presidency Division, Orphan Committee, Dum-Dum.

GENTLEMEN,—The undersigned will feel obliged by your circulating, for the votes of the army, the following propositions to amend the regulations of the upper orphan society.

2. The regulations of the Bengal Military Orphan Society do not appear well adapted to the present state of the army; that society differs, we believe, from any society in India, in the circumstance of its managers retaining their seats during their own pleasure. The regulations for conducting the elections to the management do not appear to be so strictly observed as it is necessary they should be; and the managers, by having the power of recommending to the army whom they wish to be elected, in some degree exercise the privilege of self election; a privilege always open to abuse.

3. Another anomalous circumstance is, in there being in the society an officer, called the deputy governor, perpetual as to his duration in office, and elected by the management. In this officer, in conjunction with the Secretary (also elected by the management) the whole, or nearly the whole, of the executive power is vested. If they disagree the institution suffers, and both being permanent, the injury is permanent also. On the other hand, if they agree, there is no check.

4. We doubt if there ever was an instance of a public society, in which funds so large, were placed so completely beyond the controul of those who subscribed them; no public meetings of the subscribers to the Institution are held; no real responsibility appear to exist any where. We know nothing of the state of the funds but what we hear from the management. We are told that they are lodged in Company's paper, in a newspaper, and in a bazar; and we have no reason to doubt of that being the case. But there is no examination like a personal examination, particularly as to the profit and loss of such speculative property as a newspaper and a bazar.

5. Under these circumstances we have ventured to make the following propositions, which will, we think, provide for some of the glaring evils we have pointed out; and we earnestly beseech the subscribers to the fund to bestow upon them the attention due to any proposition concerning an institution, which fosters and provides for the orphans of our brother officers; and which may, at no distant period, do the same for our own.

6. We propose that, so soon as a majority of the votes of the army shall be obtained in their favour, the following propositions become regulations of the society.

1st. That a public meeting of subscribers to this fund, summoned by advertisement in the two newspapers of greatest circulation at the Presidency, do take place at the Town Hall on the 2d Wednesday after the 1st day of January, of every year, at ½ past 9 o'clock in the morning, to inspect, and examine all accounts, orders, minutes, and correspondence, of the General Management, and all under their controul, and to confirm and adopt a report, to be drawn up by the Secretary under instructions of the Management, of the proceedings of the Society for the past year.

2d. That all subscribers be entitled to vote at the annual meeting, except the members of the General Management for the past year (it not being reasonable for men to confirm and adopt their own report, and to pass an act of indemnity for themselves) and that 12 voters, present at the Meeting, be sufficient to form a quorum.

3d. That the Deputy Governor be elected annually by the management; the person who has filled that office during the past year, being incapable of re-election for the year next ensuing.

4th. That one third of the managers do go out of the management every year, on the 31st of December; and be incapable of being re-elected for the year next ensuing; the managers going out being those who have been the longest in the management.

5th. That the secretary to the society call upon the subscribers, in the usual manner, to vote for the filling up the management; taking care, that sufficient time be given for the elections to be concluded before the 31st of Dec. of each year.

6th. That in case of any vacancy in the Management occurring during the year, a special meeting of subscribers be summoned as aforesaid by public advertisement by the Secretary, to meet at the Town Hall for the purpose of electing a Manager to act till the end of that year, the voters and

manner of voting being the same as at the annual meeting.

We have the honor to be, Gentlemen,
Your most obedient servants,

T. Maddock, Lt. Col. 10th Reg. N. I.
S. Swinhoe, St. Col. 43rd Reg. N. I.
J. Eckford, Major 6th Reg. N. I.
C. Wimberley, Acting Garrison Chaplain.
J. Swetenham, Captain—
W. H. Halford, Captain 41 Regt. N. I.
Frederick Corbyn, Garrison Surgeon.
J. R. Colnett, Captain, Barrack-Master.
J. T. Pearson, Assistant Surgeon.
John Coke, Lieut. 10th N. I.
J. Pillott, 10th N. I.
J. D. Wilson, Lieut. 10th N. I.
J. Roe, Surgeon, 73rd N. I.
J. Samler, Lieut. 10th N. I.
J. W. V. Stephen, Lieut. 41st N. I.
J. W. C. Chalmers, 43rd N. I.
R. Ramsay, Lieut. 10th N. I.

THE CALCUTTA FREE SCHOOL.

THE PROVISION FOR THE MINISTER OF THE FREE SCHOOL CHURCH SHOULD BE MADE BY CONTRIBUTIONS FROM THE CONGREGATION, AND NOT OUT OF THE FUNDS INTENDED FOR THE SUPPORT AND EDUCATION OF DESTITUTE CHILDREN.

The subscribers to the Free School are already aware that the Church attached to it was built, out of the funds of the institution, expressly for the purpose of affording sound religious instruction to the children belonging to the school and the families residing in the neighbourhood. The chief advantage calculated upon, as likely to arise from the erection of the church, was the introduction into the institution of a respectable ordained clergyman who might act as the head teacher, and it was expected that under proper management the pewage would pay not only the church establishment, but also the interest of the sum taken from the funds for the erection of the building. At a general meeting of the subscribers to the institution held at the Free School on the 20th September 1832, a report of which was published in the India Gazette of the 1st of October succeeding, it was resolved that the salary for the united services of chaplain and head master be increased on the ceasing of the pensions of Mr. and Mrs. Peters, formerly teachers at the institution, or by such net profits of the church as might ultimately arise, until the aggregate salary amounted to 400 rupees a month. It has however so happened that the chaplaincy, instead of being united to the mastership, has been joined to the secretaryship, all the pensions have not ceased, and the net receipts of the church have failed to realize the expected amount. Yet the Governors have thought proper to pay out of the funds of the institution the salary of the chaplain and secretary to the amount of rupees 400 per mensem. It appears that an institution like the Free School, so straitened for want of funds as to refuse admission to a number of poor children, should not erect a church out of its funds nor provide for the minister. As for ourselves we are persuaded that sound religious instruction could have been imparted to the children in their school-room equally as well as it is given in the church; and had the master been an ordained clergyman, divine service also could have been regularly performed there. Indeed we think the place would have been more acceptable in the sight of God than a church erected by taking away bread out of the mouths of the destitute. But as the church has been erected, surely the pledge of appropriating the pewage towards the liquidation of the interest of the sum, taken from the charity funds for the erection of that church, ought not to be violated. Under these circumstances we considered it our duty to address our colleagues in the management the following remonstrance with our protest for record.

To the Governors of the Free School.

Dear Gentlemen,—I am sorry to be compelled to submit for record the accompaying Dissent from the resolution passed on the 12th of August last, on the subject of increasing Mr. Garstin's salary. The proceedings appear to me to have been altogether irregular. In my opinion the regulations direct that the Chaplain's situation should be united to that of Head Master. The institution might then have secured clerical superintendence with little additional expence. At present, the church receipt will scarcely cover the outlay for the salaries of organist, clerk, and other establishments, besides which the church will require repairs. Thus then the receipts will in no way tend to liquidate the interest of the large sum laid out in that building. If the expence of clerical instruction is to be so great, the parish should, I think, provide the minister. At present we are compelled to refuse admission to children for want of room. It is indeed our bounden duty to be as economical as possible, that we may be enabled to enlarge the building, and be the means of providing for children who are now living in a state of ignorance and poverty in all parts of the city.

I have the honor to be,
Dear Gentlemen, your obdt. servt.
F. C.

THE PROTEST.

I dissent from the resolution passed by the Governors on the 12th August last, for the following reasons:—

First, because it was resolved at a General Meeting of the Subscribers held at the Free

School 29th September 1832, that the salary of the chaplain and master was only to be increased to 400 rupees per mensem as the pensions of Mr. and Mrs. Peters ceased. The latter is still living and continues to receive her pension.

Secondly, because as the Secretary Mr. Sutherland only received 70 rupees per mensem by uniting this appointment to that of chaplain, the latter involves an expence to the institution of 330 rupees per mensem.

Thirdly, because the resolution of the Governors (see Appendix marked E) shews unequivocally that the Bishop was informed that the church was built on an understanding with Bishop Turner that the duty should be done without encumbering the funds of the society.

Fourthly, because it was only on the 11th of February last (see resolution marked C and D) that Mr. Garstin's salary was raised from 250 to 350.

Fifthly, because it was proposed to raise the salary to 400 on the 10th of June last, (resolution marked E) but not carried because so few Governors were present, the same objection existing when the resolution was carried on the 12th of August, (see resolution marked G.)

Sixthly, because the resolution of the 15th July 1835 (resolution marked F) was not carried into effect.

APPENDIX.

At a Monthly Meeting of the Governors held this day, Thursday, the 15th August, 1833.

B—Read a letter from Rev. Mr. Bateman, requesting to be allowed an Assistant in the Free School church.

Resolved that the subject be referred to the Bishop and that his Lordship be informed that the church was built on an understanding with Bishop Turner that the duty should be done without encumbering the funds of the society.

C—*At a Monthly Meeting of the Governors, held this day, Thursday, the 13th February*, 1834.

3d.—Proposed by Mr. Dealtry, and seconded by Mr. Fisher, that Mr. Garstin be provisionally appointed Secretary and Chaplain on a salary of sicca rupees 250 per mensem, on being ordained by the Bishop, and that it be intimated to Mr. Garstin that his confirmation or removal from the office of secretary and chaplain will remain for the future consideration of the Governors.

D—*Meeting of the Gov., Feb.* 11, 1835.

4th.—Proposed by Mr. Robertson, and seconded by Mr. Dealtry, that Mr. Garstin's salary be increased to three hundred and fifty 350) rupees per mensem, and that 200 of this be considered as due for his services as chaplain.

E—*Meeting of the Governors, Wednesday, 10th June*, 1835.

5th—It being suggested that Mr. Garstin's salary should be raised to 400 rupees, what he was orginally to expect. Resolved that as so few Governors are present, the consideration of this subject stand on to the next meeting.

F—*Meeting of the Governors, Wednesday, 15th July*, 1835.

6th—Resolved that the resolution relative to the appointment and salary of the Secretary and Chaplain be circulated for the information of the Governors with any other document that may throw light on the subject.

G—*Meeting of the Governors, Wednesday, 12th August*, 1835.

7th—Resolved that the consolidated salary of the Secretary and Chaplain be raised from the first proximo to sicca rupees 400 per mensem.

MEDICAL AND PHYSICAL SOCIETY'S MEETING.

Saturday, Dec. 5th, 1835.

J. Langstaff, Esquire, 1st member, Medical Board, in the chair.

Donald Stewart, Esq., M. D. assist. surgeon Bombay establishment; Dr. Hughes, surgeon Madras establishment; Dr. Cantor of Calcutta; and W. Brydon, Esq., assistant surgeon on this establishment, proposed at the last meeting, were elected members of the society:—

The following gentlemen were proposed as members of the society:—

Dr. Macreery, and Mr. assistant surgeon Burt of his M.'s 9th Regt.—and J. Bowron, Esq., assistant surgeon on this establishment, and Dr. Bain, practitioner in Calcutta.

Presented for the Library.—A small work in Sanskrit and Nagree, entitled Chikit Sharnava, or the River of Medicine, by Rajah Kalikrishna, a corresponding member of the society.

The following original communication was presented at the meeting:—

Observations on the uses of Iodine and its compounds in Bengal, by D. Stewart, Esq., M. D.

A letter was read from Mr. Bell, of Almorah, descriptive of two cases of tumor, successfully extirpated by him. Mr. Bell's first case was a zemindar, admitted into Hospital with the fungoid tumor on the back part of his scull, about an inch in height, and 3 in circumference, of soft and spongy texture, intimately connected with the pericranium; the surface was a mass of ulceration, of a

livid color, which bled on the slightest irritation, discharge thin and fetid, pain severe, it had annoyed him for many years, and had resisted the efforts of many native practitioners to destroy it by escharotics. Mr. Bell removed the diseased mass. In the dressings of the wound, it was touched by the Polassa-c-calce ; in a short time the sore was healed.

The second case was that of a female who was affected with a large sarcomatous tumour on the great trochanter and front part of the right thigh ; the swelling was firm and hard throughout, and, from its strong attachment, not in the least pendulous. It commenced 5 years ago, and having attained the size of an orange, remained stationary without pain, till within the last 6 or 7 months, when it rapidly increased, causing great uneasiness by its weight, and dragging of the surrounding parts. Ulceration had taken place on the top, with a trifling and very offensive discharge, by great constitutional irritability. Mr. Bell removed the tumor, little blood was lost during the operation, and but one artery required to be tied ; in a short time the wound healed, and the woman returned home. On examining the mass, it was found to consist of a gristly substance, strongly resembling cartilage in some parts ; in the centre there was a small cavity, containing serum ; whence Mr. Bell thinks the term fibro-cartilage might be more properly applied to these swellings than sarcoma.

Read a letter from Dr. Benza, surgeon to the Hon'ble the Governor of Madras, descriptive of a post-mortem examination of a tiger.

A topographical and statistical account of St. Helena, by Dr. McRitchie, medical staff of that island, was next read.

Dr. McRitchie states the island of St. Helena to be situated in 16º 55′ South latitude and 5º 44′ West longitude, length 11, breadth 7, circumference 28 miles, surface in acres 30,300. The exterior in almost all places nearly perpendicular, containing a great number of lofty eminences, the highest of which, Diana's Peak, is 2,997 feet ; many others are nearly as high, considerably exceeding 2,000 feet. With regard to its geology, the author writes on the authority of Mr. Bloxam, that the cliffs which surround the island consist principally of rugged and steep banks of lava, many of them regularly stratified by successive layers of volcanic matter, amongst which, in some places, veins of a red sandy appearance are visible. The valleys and ridges in the interior are composed of basaltic lava in its most compact state, together with cellular, and many other varieties in every state of decomposition. All the valleys and intermediate ridges appear to concentrate into one large basin on the south side of the island, which is evidently part of a volcanic crater, from whence the island has been formed. The ridge called Diana's Peak forms one edge of this crater, inclining gradually towards the sea ; whence it is concluded that the remaining ridge, necessary to complete the crater, is buried beneath the ocean. The volcanic matter and lava appear to have flowed from this immense crater in every direction, and to have formed the ravines and intersecting ridges of the island. The edge of the crater from Diana's Peak round to the opposite side is well defined. There is no appearance of any other crater in the island. In cutting away the lava at Saddle Hill, many feet below the surface, small bones have been found incrusted with stalactite. The author accounts for the existence of these bones, by supposing that the animals may have crept into crevices in the rock, and there died; for if a bed of lava in the liquid state had flowed over them, they would probably have been consumed, and could not have been incrusted with stalactite. The volcanic fire, Mr. Bloxam says, must have ceased at some very remote period, and there is little probability of its ever breaking out again, as the island is small, and the combustible matter appears to be entirely consumed.

The minerals of the island belong to the family in which silex predominates, to the calcareous and to the argillaceous families, to the mineral ore containing iron, and lastly to lava; silex in the shape of quartz is rarely found, chalcedony and jasper and opal in small quantities. Pitchstone more frequently, and obsidian or pumice stone very sparingly and very light. Of the calcareous earths, gypsum is found in several varieties; calcareous spar and stalactites of carbonate of lime are not unfrequent. The argillaceous minerals are hornblende in the form of crystals embedded in lava. The clays of the island exist in the form of different volcanic masses in a state of decomposition, varying in color according to the quantities of iron contained ; pieces of iron ore are found very rich in the metal. The forms of lava met with, are principally close or basaltic, and honeycomb or porous. The highly divided state of the siliceous matter of the soil renders the island almost impermeable to rain and moisture, and in this way entirely prevents vegetation in many places.

The climate is extremely variable between the valley of James' Town, which is 60 feet above the sea, and Plantation House which is 1,684 ; there is difference of from 8 to 10 of the thermometer. Fires are necessary in the country during the months of July,

August, and September ; but in James' Town they would be very disagreeable at any period of the year. The hardy trees of Europe, and of the higher latitudes of Africa, cannot be reared in the valleys, but flourish on the hills in singular association with many tropical plants. * * * * The island is frequently overshadowed by a fog, which protects it from the rays of the sun for days together ; this, unlike other fogs, is perfectly dry. The cumulus and cirro cumulus are the most frequent forms of clouds ; thunder is very rarely heard at St. Helena, but lightning is common in dry weather.

There are more than 160 excellent springs on the island, the hourly discharge of water from four of the principle ones, (situated from 589 to 650 feet above the sea,) in January, July, and December, was 3,600 gallons, the temperature of the water 69½, and during a most severe drought in 1824 and 1825, the number of springs which totally failed, did not exceed 4 or 5. The maximum temperature at Plantation House is 73· minimum 59° ; at Longwood, minimum 57· maximum 74° ; James' Town, maximum 82· minimum 71· The variations of the barometer are extremely small. The quantity of rain which fell in 1826 at Plantation House was 40 inches ; at Longwood, 39 inches ; at James' Town, 8 inches, 5-10. Few opportunities occur at St. Helena of observing the fall of dew very accurately, owing to the light showers and mist, with which the sand is constantly overshadowed. The prevailing winds are from the south and south east, from the west less frequently, and from the north very seldom. The population of St. Helena in December 1834 was 4977, being 2113 whites, and 2864 colored people. The average number of deaths annually appear to be about 80. The total number of admissions into hospital of the troops in the island, during the last 4 years, were 1980, the strength of the garrison being about 800. The total number of sick of all classes admitted into the General Hospital, during the same period, including the troops, was 2669, of whom 2606 recovered, and 6 died.

The fatal cases were principally pulmonary, hepatic, and bowel affections. The prevailing mortality assimilates closely to that of Great Britain, especially in the frequency of pulmonary affections. The diet of the people consists chiefly of rice and fish and a good deal of salted meat, and they are much given to the use of spirits and tobacco. Scrofula is a disease well known in St. Helena. Dr. McRitchie states that blood-letting is highly necessary in the inflammatory and mixed fevers of the island, but that people of color do not bear up so well against the effects of that remedy as Europeans. Rheumatism, gout, and nephritic affections, erysipelas, urticaria, and varicella are frequent, but confluent small pox is unknown. Measles were very mortal in 1807, since which it has disappeared from the island. Tetanus and trismus are almost always fatal. Mental ailments are not uncommon. Elephantiasis and lepra frequently attack the people of color; puerperal convulsions were very fatal in 1824, as well as croup, and that dangerous modification of sore throat described by Dr. J. Hamilton, Junior, in the 2d edition of his work on female complaints.

Mr. Hutchinson rose, and, addressing himself to the President, observed that as he, the President, was a geologist, perhaps he would favor the meeting with his opinion whether St. Helena was a volcanic island or not.

Mr. Langstaff replied that he did not pretend to combat the opinions of the author who was resident there, he had alluded to exploded theories on the subject of laying down what was meant by volcanic islands, but in his opinion St. Helena was an island consisting of lava. The author of the paper stated however that it was not a volcanic island : Mr. L. thought that opinion was contradicted by the author's own statement ; which went to prove that it was formed of volcanic lava. In other parts of the world antediluvian bones have been found where lava flowed. The author was of opinion, however, that where lava flowed, bones could not have existed, as it would have destroyed them ; he, Mr. Langstaff, did not think this a necessary inference, as it was possible for lava to be so heated as to flow in a liquid form, and yet its heat be not so intense as to destroy these animal remains. The author of the paper, however, accounted for the existence of these bones, by supposing that the animals may have crept into the crevices of these rocks and have died. Firs and brambles at the height described to exist at the top of the mountains in the tropics, viz· at an elevation of 2000 feet was remarkable ; for nothing of the kind was to be found in Hindustan at the elevation of even a thousand feet.

Case of dislocation of the humerus, in which reduction was effected after an interval of one month and four days, drawn up by Mr. Reid, of the Colingah Dispensary, and presented by Principal Bramley, was next read; on which Mr. Hutchinson observed that there was nothing remarkable in this case. Reductions of luxation of much longer date were not uncommon. After three months it was recommended that no attempt should be made to reduce luxations of the shoulder, and after two months the hip joints then formed articulations which were to be preferred.

Notes on irregularities of menstruation, by Dr. Stewart, Esq. M. D.

Dr. Stewart commences his paper by alluding to the importance of the subject, and gives a quotation from Davis' recent work on midwifery. That author observes "that it may be admitted as an axiom founded on extensive observation of the phenomena of menstruation, that if it be performed imperfectly, painfully, or otherwise irregularly, during the first few years of the menstrual part of a woman's life, it will continue to be so performed through life."

"Most of the young females," says Dr. Stewart, "who come out to India have menstruated before their embarkation, but it very frequently happens that they do not menstruate above once during the voyage, and that, before the healthful re-establishment of this important function, a painful series of nervous disorders has to be undergone.

No where, therefore, is it of more importance than in India to have correct and distinct notions upon this subject, so that our medical interference, in cases where it is imperatively required, may be limited to what is absolutely necessary, and never exceed that point.

The first efforts of nature to re-establish the interrupted menstrual function are always attended with considerable constitutional disturbance. Besides, being out of spirits, the patient generally complains of headache, pain in the back and loins, weakness of the limbs, loss of appetite, flatulence, and disordered bowels. There may even co-exist a considerable heat of skin, with a quick hard pulse and great tenderness of abdomen, so that it is often a very difficult question whether or not the lancet be required.

On the one hand its non-employment, if there be present any active inflammation, may lead to fatal consequences; while on the other hand, its *unnecessary* use, should these symptoms be those merely of constitutional excitement from local congestions simply, the consequences, of local susceptibility to action, but not inflammatory, must be followed by the immediate arrest of a natural process, the consequence of a peculiar but still natural condition of the blood vessels, conducive to the performance of a peculiar but still natural function.

There is something in uterine irritation, its influence upon the nervous, and consecutively upon the sanguiferous system, which distinguishes it from all other nervous stimuli whatever, which raises it into a distinct exception from Wilson Philips' aphorism that 'continued nervous irritation always tends to produce inflammatory action' and which gives the pause to the boldest advocate for depletion, who has once witnessed its effect in such cases.

The secondary consequences of undue interference by bleeding during the period of unsettled menstruation are the procrastination of the healthful establishment of this function to a distant period, and meanwhile the induction of such a morbid condition of the internal membrane of the uterus, as not unfrequently ends in the formation of an adventitious or false membrane which is not afterwards thrown off without much violent pain, and whose presence often causes mechanical obstruction of the vessels and of the mouth of the uterus.

This small membrane has generally the exact shape of the fundus uteri, and is large enough to cover the point of a finger when spread out on it—an observation which rather militates against the theory of menstruation being a secretion from the *neck* of the womb."

Dr. Stewart quotes Dr. Bright's opinion that,—

"He has frequently seen pains the most acute, particularly in the head, not only aggravated by the loss of blood, but yielding readily to the compound steel mixture."

Dr. Stewart gives an interesting case of a French female attacked with an alarming vomiting of blood: this was found to be connected with menstrual obstruction and enlarged spleen. Cold application to the region of the stomach acid. sulph. gtt. xx. Liq. opii gtt. x. Tinct. Digital. gtt. vi. ft. H. was given and half the quantity repeated every half hour. The discharge continued 3 days, during which she passed 2lb of blood, when it stopped. A relapse took place a month afterwards, and again a third time on the 15th of June.

"For a day or two before the hœmoptysis begins, the spleen perceptibly enlarges, feels heavy and painful, causing nausea and faintness when the patient walks or moves about."

On this case Dr. Stewart observes that, "the occurrence of hemorrhage from a simply congested spleen is by no means uncommon in Bengal nor necessarily fatal. It often in fact effects a salutary change in the diseased organ, and conduces to its cure, as it doubtless would in this case, but for the *habit* established at the menstrual period."

Dr. Stewart also relates a striking though not unusual case of hysteralgia in a Portuguese girl of 15. She was said to have menstruated at uncertain periods for about 12 months. Oil of turpentine combined with ol. Ricini was given, from which she was copiously purged. The spasms abated: the following pills were prescribed: Rj. Camph. ʒss.

Ext. Hyosciam. g. xv. opii. g. iij. ft. mass in pil. xii. Two every hour. Passed a tranquil night after taking four of the pills, next morning she took P. Jalap 6. 3j. et. Ant. Tart. gr. 1 a weak solution of Magnes. Sulph. aqua camphor c. vin. ant. during the day.

The paroxysm of convulsions came on nearly at the same time as on the two preceding evenings, and upon its accession, x grains of camphor were given in a draught. The spine was also blistered quickly and effectually with the Liquor Lyttæ. Next morning there was a complete remission. She now spoke sensibly, complaining of the pain of the blister, but had no recollection of what had passed during the last three days. The bowels were free, the discharges a frothy yellow mucus. The saline, antimonial, and camphor draughts were continued all day, and a camphor draught was administered at night as yesterday. On the fourth day there was a slight *show*, which was more copious towards evening: no membranous or fibrous substance was discharged. The medicines were continued, and in a few days she was quite well."

"The pills above mentioned," says Dr. Stewart, "are the prescription of Dr. Cheyne, who remarks that 'the efficacy of full doses of camphor on painful menstruation is not so generally known as is desirable.' Dr. Dewees is also a great advocate for full doses of camphor. 'I rarely if ever,' says he, 'give this medicine in smaller doses than x grains, nor have I ever witnessed the smallest inconvenience which was attributable to the largeness of the dose.'"

Surely, adds Dr. S., any risks however of this sort would be preferable to the barbarous practice of Mackintosh, that of dilating the os uteri by bougies. The *bleeding* produced by this operation cannot be considered a fair evidence of its success, but were that eight times as great as reported, viz. 2 in 16 it would not in Dr. Stewart's opinion justify the rudeness and violence of such a procedure towards young females.*

Mr. Hutchinson remarked that Dr. Stewart was rather too severe on Dr. MacIntosh. In using bougies, he observed, there might be cases in which they would be beneficial. He wished to know from Dr. Stewart whether he had tried bougies. Dr. Stewart replied in the negative. He had never used them because he considered them injurious.

Mr. Hutchinson said that Dr. Stewart's views, regarding Dr. MacIntosh's practice, were different from his. In cases of dysmenorrhœa, where the disease arose from the contraction of the orifice of the uterus, it was advisable to dilate it by bougies. That there could be no stronger proof of the value of the practice than that wombs previously barren had borne children after having had the os uteri dilated by bougies. Dr. Stewart considered Dr. MacIntosh's principle as altogether erroneous. And irritable uterus, like an irritable urethra, did not admit of mechanical dilatation or interference by bougies.

Mr. Corbyn was of opinion that Dr. Stewart's paper was a very valuable document. Difficult menstruation, he said, was a common disease among young females in India. But this generally proceeded from leucorrhœa, in which venesection would be prejudicial; for the state of the patient was ordinarily that of debility. Leucorrhœa was a very common disease in this country; but young people generally conceal its existence from all but their female domestic servants, who informed their young mistresses that the discharge was natural to all women. Thus, from feelings of delicacy, it was generally concealed from the medical attendant. A strict examination, on the part of the medical practitioner, was therefore necessary. Mr. Corbyn said he had been in the habit of prescribing the Tinct. of Guaic. Ammon. with success, having previously used the balsam of copaiva, in cases of leucorrhœa.

Mr. Hutchinson said he did not think leucorrhœa was common among young females in this country; but believed it was prevalent in elderly persons. He observed cubebs were beneficial in that complaint. Mr. Hutchinson enquired of Mr. Corbyn if he had ever tried the Liq. Ammon. in milk, injected into the vagina in cases of amenorrhœa.

Mr. Corbyn replied in the negative.

Dr. Stewart begged to know whether Mr. Hutchinson alluded to this remedy as a cure for leucorrhœa or difficult menstruation.

Mr. Hutchinson in reply said, for amenorrhœa.

Dr. Jackson enquired of Mr. Corbyn whether he considered Tinct. Guaic. necessary in all cases, and whether there were not cases in plethoric habits that required depletion by the application of leeches to the thigh, especially in young females just arrived from Europe.

Mr. Corbyn replied that there were cases which required depletion; but he had simply alluded to young girls in this country, in most of whom it would be prejudicial. He said there were exceptions to every rule;

* We beg to acknowledge our obligations to Mr. Hutchinson for allowing us to make the foregoing abstract from Dr. Stewart's valuable paper. It was a subject which Mr. H. very judiciously withheld from the columns of the daily papers.—EDIT.

and observed venesection might be found necessary in some cases.

Mr. Hutchinson said he differed wholly from the principles laid down by Mr. Corbyn, as he thought every case of amenorrhœa did not proceed from debility. He recollected robust servant girls at home with this complaint, from whom pounds of blood had been taken with advantage.

Mr. Corbyn observed that cases like those brought forward by Mr. Hutchinson might occur, but certainly were not very common.

Military Surgery Class, University of Edinburgh. 1834-35.—On Thursday the 16th day of April, at the last meeting of the Class of Military Surgery in the university of this city, in the presence of a considerable number of the Professors of the Medical Faculty, and most of the Medical Officers of the Army and Navy and East India Company's Service resident in Edinburgh. Sir George Ballingall, after concluding the lecture, proceeded to announce the names of the gentlemen who had obtained prizes.

It had been announced at the commencement of the session, that the pupil who should most distinguish himself by regular attendance, diligence, and correct answers at the examinations, together with an essay *On the Means of Preserving the Health, and promoting the efficiency, of Soldiers and Seamen, especially in Warm Climates*, should be recommended by the Professor to the Director-General for an appointment in the medical department of the army. It was at the same time announced that a case of surgical instruments should be awarded to the author of the best essay on penetrating Wounds of the Chest.

By nearly the unanimous votes of the class, after a competition conducted in presence of the Principal of the University, and numerous professional gentlemen, the individual selected as most distinguished by a knowledge of the subjects of military medicine and surgery was Mr. Robert Lawson from Perthshire, in which decision the Professor concurred, and Mr. Lawson was accordingly recommended to the Director-General. We understand that he has since received this appointment so justly due to his merits.

Two candidates appeared for the Second Prize, and as the Essays were considered of nearly equal merits, the Professor deemed it expedient to divide the prize, or rather to give each of the candidates a prize; one a case of amputating instruments, and the other a case of trepanning instruments. Upon opening the sealed letters which accompanied the essays, in the presence of the auditory, it was found that the candidates were Mr. Alexander Campbell from Persia, and Mr. Robert Lawson, the gentleman whose merits were so highly distinguished by the suffrages of his fellow-students.

In announcing these proceedings, we think it our duty to direct the attention of the profession to the judicious and praiseworthy conduct of the Director-General, and to the beneficial effects both upon the public service and upon the acquisition of correct and useful professional knowledge, which the occasional repetition of this mode of rewarding merit is calculated to produce. When students are made to perceive that regularity and attention in study, diligence in the acquisition of knowledge, and promptitude in adducing proofs of its possession, are made the tests of their fitness for public situations, and that attention is given to these qualifications, to the exclusion of influence or the solicitations of friends, they will speedily see the necessity of trusting to merit and professional attainments alone.

So convinced are we of the beneficial effects of this mode of exciting emulation, that we may, with deference to the authorities respectively at the head of these departments, express the opinion that a similar plan might be most advantageously adopted, not only in the distribution of appointments in the army, but in the navy, and in the Honorable the East India Company's Service. Such a course would have the happiest effects in securing to these different departments the services of the most intelligent, accomplished, and diligent medical officers.

We are tempted particularly to advert to the necessity of attendance on courses of Military Surgery, not only to those destined for the medical department of the army and navy, but also to those who are to be employed in the service of the Honorable the East India Company. The importance of an intimate acquaintance with the best means of preserving the health of soldiers, is nowhere more clearly evinced than in India; and it would only show a proper degree of interest in the qualification of their medical officers, if the Honourable the Directors would recommend, if not enjoin, attendance on these lectures, or at least signify their determination, in the filling up of vacant appointments, to prefer those who, being equal in other branches of medical education, had devoted attention to this.

The justice of this opinion is corroborated by the fact, that we find it to be a very general sentiment among the medical officers of that service resident here, that attendance upon this class would be of great utility to them in the exercise of their duties.

It may, indeed, become a question, whether it would not be proper to institute lectures on military medicine and surgery in each of the other two great medical schools, London and Dublin.

The Prize Essay for the ensuing year is the following:—

On the Classification of the Feigned and Fictitious Diseases of Soldiers and Seamen, the means used to simulate or produce them, and the best means of detecting impostors.

(Prize, a case of amputating instruments.)—*Edinburgh Medical and Surgical Journal, July* 1, 1835.

GENERAL ORDERS.

BENGAL.

Promotions.—Surg. D. Renton to be supg. surg., 3d Oct.—Assist. Surg. D. Campbell to be surgeon, 15th Oct.—Surg. J. Sawers to be 3d member Medical Board, 3d Oct.

Appointments.—Assist. Surg. J. V. Leese, 41st N. I. to a detachment of H. M.'s troops, Hazarecbagh, 27th Nov.—Assist. Apothy. J. Hefferan, H. M. 38th Foot to act as Apothy. 1st Dec.—Assist. Apothy. F. O' Sullivan, H. M. 9th Foot to act as steward, 1st Dec.—Assist. Surg. J. C. Smith, 64th N. I. to afford medical aid to 4th Company, 1st Battalion, Arty. Dum Dum, 15th Dec.—Assist. Steward J. Hennessy to 4th Company, 1st Battalion, Arty. Dum Dum, 15th Dec.—Surgn. W. Findon to officiate as supg. surg. Benares, 8th Dec.—Surg. A. Ross, to a detachment of Arty. 23d Nov.—Assist. Surg. W. Rait to 1st Brige. Horse Arty. and officiate at Mussoorie, 15th Dec.—Surgn. A. R. Jackson to officiate as apothy. to the Hon. Compy. 21st Dec.

Leave of Absence.—Assist Surg. T. S. Login, M. D. Howrah, for 4 mths. from 1st Nov.—Assist. Apothy P. F. H. Baddeley, 4th Troop, 3d. Brig. Horse Arty. cancelled at his request.—Assist. Apothy. C. Permien, H. M. 16th Foot to visit Allahabad 15th Dec. to 15th Feb. 1836.—Surgn. J. Barker to Calcutta, on a summons from the Supreme Court, 30th Oct. to 20th Dec.—Surgn. J. M. Todd, 10th N. I. to join 1st to 7th Dec.—Assist. Surgn. J. Esdaile, M. D. Azimgurh, on sick certificate for 2 months, from 28th Nov.—Surgn. T. Ginders, Scindia's contingent, to join 1st Dec. to 20th Jan. 1836.—Assist. Surg. J. McCosh, Gowahatty, to join 1st to 20th Jany.—Surgn. M. Nisbet M. D. returned to duty, 29th Dec.—Supt. Surgn. S. Ludlow, returned to duty 30th Dec.—Assist. Surgn. D. W. Nash on sick certificate to Europe, 23d Nov.—Assist. Surgn. W. S. Dicken, Balasore, 20 days in extension from 24th Oct.—Assist. Surgn. A. Wilson, Rajeshaye, to Presidency, 8th Dec.—Assist. Surgeon. T. Pagan, Rungpore, one month in extension, 8th Dec.—Assist. Surg. C. B. Handyside, M. D. returned to duty, 11th Dec.—Assist. Surg. A. Chalmers, M. D. on medical certificate, 14th Dec.—Assist. Surg. W. E. Watson, to visit the Presidency on private affairs, from 1st Jan. to 30th April 1836,—Assist. Surg. T. K. Spencer, for one month, from 21st Dec.

Removals.—Surgn. G. Gowan, M. D. to 12th N. I.—Surg. H. Brown, to 37th N. I.—Surgn. J. Griffiths to 52d N. I.—Assist. Surg. E. T. Downes, to 49th N. I.—Assist. Surgn. S. Winbolt, to 8th N. I.—Assist. Surg. C. J. Davidson, under supg. surg. Benares.

Resignation.—Assist. Surg. W. Warlow, retired 31st January 1835.

Marriage.—Surgn. G. G. Macpherson, Moorshedabad, to Charlotte, eldest daughter of W. Leycester, Esq. C. S.

Birth.—On the 15th December, the lady of Dr. Graham, of a daughter.

Death.—On the 3d October, at the Cape, G. Skipton, Esq. 3d Member Medical Board.

BOMBAY.

Leave of Absence.—Assist. Surgn. H. T. Chatterton, to Europe, 14th November, by General Orders.

Marriage.—On the 20th June, W. Carstairs, to Elizabeth, second daughter of Captain Methvin, R. N.

MADRAS.

Marriage.—Surgn. E. Smith to Eliza L. eldest daughter of J. Kenye, Esq.

TO CORRESPONDENTS.

The following papers will appear in our next number.

A case of tumour originating above the right breast in a Nepalese lady of rank, with a drawing, by Dr. Campbell.

Dr. Mackinnon's reply to Dr. Chapman—Lithotomy *versus* Lithotrity.

B on rapture of the spleen. This paper was marked for our present number, but owing to an oversight it was unfortunately omitted.

Philanthropos on provision for the destitute native sick.

A sketch of the Benares Native Hospital.

We beg to acknowledge the kind favor of D. S.'s promised clincial reports, of the General Hospital, Calcutta.

We have received D. W's third valuable paper on the management of jails. Also B's paper on the sympathy existing betwen mind and body.

We beg to acknowledge the receipt of further valuable Hospital reports from Mr Hunter, 2d or Queen's Royal Regiment.

Communications from the following gentlemen have been received, with enclosures of advance of subscriptions for the ensuing year.—H. Bonsfield, W. Stevens, and C. J. Macdonald, Esquires. Our acknowledgment of receipts through houses of agency will be made by the members of firms to their constituents.

THE INDIA JOURNAL

OF

MEDICAL AND PHYSICAL SCIENCE.

Vol. III. Old Series.] FEBRUARY 1, 1836. [Vol. I. New Series. No. II.

CASE OF TUMOR.

To the Editor of the India Journal of Medical and Physical Science.

Dear Sir,—About three months ago I received through a learned and religious Brahmin, a message from a Nipalese lady of high rank and caste, informing me that for nearly two years she had been suffering great physical inconvenience and mental distress, from the growth of a tumor originating above the right breast. That during the six months then passed, it had grown so rapidly, and assumed such an inconvenient shape and weight as to deprive her of the power of locomotion, except by the assistance of her slaves. Her general health, too, was now suffering; she had consulted all the physicians of Nepal, used their remedies, and had submitted to the operation of charms and incantations, but all without avail or advantage. She had heard much of the skill of the English in the healing art, and seen several persons whose lives had been saved, and to whom health had been restored, through these benevolent and skilful efforts.

Her death was now inevitable, she said, unless I would come to her relief, and she was content to submit to an operation for the removal of her disease, or comply with whatever other directions I might please to give her.

This was a most melancholy appeal, but much more so is the sequel. By dint of much interrogation regarding the origin and progress of the tumor, as well as its appearance and character, I concluded it to have been one of those large steatomatous growths which might be removed easily, and with success. I sent a message to the lady, expressive of my opinion, and of my willingness to remove the disease, if on personal examination I should find the same correct. She was rejoiced beyond measure, expressed her sincerest gratitude for my kindness, and promised to have all obstacles to my seeing her quickly removed; but it was easier said than done, for the stony heart finds an appropriate retreat in the breasts of our mountain chieftains. Circumstances over which I had no control, and which need not be mentioned here, prevented my affording the required aid: the tumor had then descended so low as to rest on the lady's couch when she sat upright. The continued pressure of its base on the ground, or bed, brought on ulcerations; fever ensued, and without hope of earthly relief, she fell a victim (in all probability) to the effects of national peculiarities or prejudices.

The sketch which accompanies this was taken carefully, as regards the tumor, and is, I believe, perfectly correct. The circumference of its neck where it originated between the clavicle and breast, measured 9 inches. When the sufferer kept the sitting posture, its lower extremity rested on the couch, or on her feet (the Nipalese ladies sit cross-legged on the ground or on low couches) and when she moved about the house, the tumor was carried in front of her by two female slaves, one on either side, their hands meeting under the tumor.

The right breast was not implicated in the mass. So soon as the tumor began to press on it, diminution of the gland commenced, and at the period of the disease here alluded to, it had entirely disappeared. The unfortunate subject of this note was only 28 years of age; when she died, she was the mother of 3 children, and had been, ere sickness harrassed her, more than ordinarily pretty. The drawing was made by a native artist, and shews correctly enough the style of a Nipalese lady in the dishabille of her sick-room.

I may mention that the people of Nepal hold very high opinions of our skill in surgery, and that the poorer classes seek its aid on all possible occasions For this fortunate circumstance we are in a great measure indebted to the reputation held by some of my predecessors, more especially Messrs Macra and Bramley. That all classes do not seek it depends on other causes, but the fact of a Hindoo lady of rank and caste bringing herself to brave the force of custom, and seek the removal of all obstructions to gain this aid, speaks well for our nation in this foreign country, and illustrates the opinion held of our skill

in an art scarcely practised by the natives of India.

I ought to have commenced my note, by saying, that my purpose in troubling you with this case is to record the existence of this class of tumors, among the diseases of Nipal, for, during 4 years' observation, and a good deal of medical practice among the poorer classes of the community, I have not met with any other class of these growths than glandular ones, save and except an anomalous one which appears on the ears of the women and girls especially, more rarely on those of the men. The thyroid glands swell to an enormous size, the parotids do the same, and the glandular affections of the scrophulous habit, are abundant enough, but steatomatous tumors so common in our own country, has scarcely an existence, I believe, in this valley. I have visited every corner of it, and in all probability have seen nine-tenths of its population.

I am, yours truly,
A. CAMPBELL.

Nipal, November 9th, 1835.

DR. MACKINNON'S REPLY TO DR. CHAPMAN.

LITHOTOMY *versus* LITHOTRITY.

To the Editor of the India Journal of Medical and Physical Science.

DEAR SIR,—There is perhaps not much occasion why I should reply to Dr. Chapman's letter, which appeared in your last number, and which comments upon a former communication of mine, the main purport of which was to draw a comparison between Lithotomy and Lithotrity. If I remained silent, however, I should fear that the Dr. would draw one of two inferences, or perhaps both. He might think me uncourteous, or he might even suppose that he had the best of the argument. I am not disposed to allow Dr. C. to draw either of the above conclusions.

I cannot compliment the Doctor upon the manner in which he has commented upon my notice of an operation which I saw performed by Sir George Ballingall. I think he almost insinuates that I have not stated the case fairly. I did not attempt to give a detailed and minute history of the case, but I said that the operator made use of unjustifiable force and appeared flurried and to have lost his self-possession. I abide by that opinion, and it would seem possible I may not be mistaken when Sir George's advocate, Dr. Chapman, himself writes thus. "I think it due to the character of Sir G. B. to make this statement from my respect for him as a friend, and my admiration of him as a first-rate Surgeon, although his tact as a *steady* operator (arising from constitutional causes entirely) may be questionable."

One must think from what Dr. Chapman writes that he considers Lithotrity an operation easy of performance and free from all danger in its result. I suspect that many Surgeons in this country, and in England too, entertain a like opinion, and why? not because the fact is so, but because the real history and every-day result of the operation is not yet fully before the medical world. It has been the study of the Lithotritists to keep back their unsuccessful cases, and to publish those which had a fortunate result.

That this is the case any one can satisfy himself of, who will take the trouble to read the late controversy between Mr. Costello and the Baron Hourteloup in the pages of the *Lancet.* The same valuable journal, see vol. 2. for 1833-34, p. 683, contains a comparison between the two operations by one of the ablest Surgeons in France, Mons. Blanden, far more conclusive than any thing Dr. Chapman or I can advance. The conclusion at which he arrives I shall give.

THE ACCIDENTS OF THE OPERATION.

First Class.

1st.—Hæmorhage is often severe in Lithotomy; it almost never occurs in Lithotrity.

2d.—The rectum peritoneum and other important organs may be wounded during Lithotomy; the two former have been sometimes injured during Lithotrity, but this is a very rare accident, and seems impossible with the newly perfected instruments.

3rd.—Infiltration of urine easily happens after the one, and is often mortal; after Lithotrity such as it is at present, the accident can scarcely occur.

4th.—Phlebitis often succeeds Lithotomy. M. Blanden knows only one example following Lithotrity.

5th.—The same observations applies to peritonitis and urinary fistulæ.

Second Class.

1st.—The pain and nervous symptoms are more severe in Lithotrity.

2d.—Cystitsis is more frequent and more severe than after cutting for the stone.

3rd.—Inflammation of the prostate after Lithotrity is much more dangerous from the abscess, retention of urine, &c. it may produce, than the same accident following Lithotomy.

4th.—The bladder may be pinched and lacerated in Lithotrity; never or rarely ever in Lithotomy.

5th.—A relapse is more to be apprehended after Lithotrity.

The clinical results of the two operations are next given, and I doubt not that they

will greatly surprise some of the readers of this Journal. I must candidly confess that when I first wrote on the subject I did not think that my case was so strong.

In 1831 calculous cases treated by Lithotomy taken from Colonel Douglas, Cheselden, Middleton, Marcet, at the Hotel Dieu, and La Charité, the deaths were 346, the cures 1085, that is 1 to 3 plus a fraction. In 125 cases of stone treated by Lithotrity, reported by Bancel Lancy and double from Civiale's practice and Hourteloup's, we have 30 deaths, 86 cures, 8 in whom the stone was not removed, deaths to cures as 3 to 1, minus a fraction. These are facts. Finally, Monsieur Blandin draws his conclusions which are as follows:—

1st.—"Lithotrity is a worthy rival of Lithotomy, but can never replace it," and this, I speak it with all humility, was the very conclusion at which I arrived in what I wrote on the subject before I had seen Monsieur Blandin's papers.

2d.—"If employed in all cases exclusively, it is inferior to Lithotomy" I shall take the liberty to copy here what I said in my former letter—"what I would say is, that in many cases the grinding down or hammering of a stone is impossible from different causes."

3rd.—That Lithotrity by ecrasement is an operation superior to Lithotomy that is to say, (I shall add) in cases for which it is applicable.

4th.—That in the present state of the science, the results of perforation and ecrasement taken together are not so fortunate as those of Lithotomy.

5th.—That no one can tell what would be the result if Lithotomists chose their patients as Lithotritists do.

6th.—The cure after Lithotomy is perhaps more perfect than after the other operation. This concludes the summary of Mons. B.'s paper as given in the *Lancet*. I need add nothing to it. It sets the question fairly and truly before the medical public.

I remain,

Yours faithfully,

K. Mackinnon, M. D.

I had another case of Lithotomy some days ago in a boy 5½ years old. During the operation an artery, the transversalis perinei was divided. It bled freely—I tied it, but there was a good deal of bleeding after the operation from the neck of the bladder, at any rate from some depth in the wound. The operation was followed by a perfect cure in about a fortnight. If I may venture an opinion from the experience of two operations, I would say that the forceps is the dangerous instrument in Lithotomy. The stone is touched, and if not caught between the blader, griping and trying to grasp it must do mischief. Let it be withdrawn, and again shutting the blades re-introduced and the position of the stone ascertained before you attempt to grasp it. At each unsuccessful attempt withdraw your forceps, and if you feel the least resistance in so doing, let go your hold of its handles, for if you have only the stone between its blades, you must have something else when it does not come away very easily. Mr. Liston has lately extracted a stone at the London University Hospital in 40 seconds.

K. M.

Tirhoot, 25th Nov., 1835.

CASE OF RUPTURE OF THE SPLEEN.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—In a newspaper report of the proceeding of a late meeting of the Calcutta Medical and Physical Society, was mentioned "two cases of rupture of the spleen, by Dr. Campbell, of the Nepal Residency."

A case of the same sort occurred to me a few weeks ago. A man carrying wood to the bazar, for sale, was struck, during an altercation, by a stick across the abdomen, and died a few hours afterwards. The body was brought to me for inspection, and immediately beneath the parieties of the abdomen, and over the site of the spleen, I found loose coagulated blood, and on the surface of the viscus, a recent breach or fissure. Though otherwise superficially *the spleen was entirely diseased, the finger passing readily through the surface into a sanguineous puttaceous mass, of which it consisted. An immoderate quantity of thin blood, like mixed claret and water, issued from amongst the intestines, and the heart, which was pale and shrunken, and adjoining vessels effused, on incision, the same fluid.

Subsequent interrogation elicited from a brother of the deceased, that he (the departed) had been ill with fever, and had only, that morning, emerged to resume his occupation. This witness was altogether unwilling to believe, that the homicide (in my construction of the matter) was not a murderer; and went away infinitely more engrossed by anger than by sorrow, to appearance.

B.

ASYLUMS FOR DESTITUTE NATIVE SICK.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—In looking over your last number, my attention was forcibly attracted to the editorial article headed "Who is it that

* This word is not legible.—Edit.

should see the sick poor provided for, and attended to in India," and I could not help coinciding with you in the view you appear to have taken of the subject. The Editor of the *London Medical Gazette* complains, not of the want of establishment for the reception of the sick poor in that city, but of the paucity of labourers in the vineyard. Here, alas! both are wanting, and *lamentabile dictu*. the spirit of benevolence and charity which should have dictated the formation of the former, appears never to have existed, and the only institution for the benefit of natives in this city owes its existence to the suggestions of British humanity. To the credit of our national feeling be it said, that there appears never to have been a want of asylums for sickness in the metropolis of Britain, and it is not at all surprising that legislation for the poor should have first become an object of government attention in the reign of Henry the Eighth ; since previously to that reign, the indigent had been amply and munificently provided for by the various monastic foundations which were then suppressed, and which were but imperfectly replaced by poor rates, and the comparatively few institutions which were established on the ruins, and with the revenues of the former princely, yet unpretending establishments. Independently of the relief which they afforded to the poor, in the way of sustenance and clothing, the regular orders were in those times not only the spiritual and legal advisers of the poor, but also their medical attendants ; many individuals of the various communities devoting their time and attention to the study of medical science, such as it was practiced in those days. They were in fact almost the only medical practitioners of the times with the exception of the few. A most remarkable circumstance corroborative of this fact exists in a privilege said to be still claimed and possessed by the Archbishop of Canterbury, *i. e.*, of conferring the medical grade of M. D., a privilege which has doubtless been transmitted with the dignity from the times anterior to the reformation. That hospitals and other medical establishments for the poor were considered as dependencies on, and almost identified with, the monastic institutions, appears from their having shared in their suppression, under Henry the Eighth, in 1539. When we find that besides the monasteries, " 90 Collegiate Societies were suppressed, 2374 chantries and free chapels, and 110 *Hospitals*," need more be said to shew how amply the medical wants of the poor were provided for previous to the rapacious seizure which entailed upon us the blessings of poor rates, &c. ? And yet almost all these asylums were the offspring of private or royal munificence ; and some were yet allowed to escape the grasping claws of the greedy monarch and his courtiers ; among which was the hospital of St. Katherine, founded in 1148, by Matilda of Boulogne, wife of Stephen, and which still continues under queenly patronage : her present Majesty being the 30th royal patroness. To the honor of British charity and benevolence, succeeding years must have replaced in a great measure those which had shared the fate of the conventual institutions, since in the great fire of London in 1660, we learn from Clarendon, that many halls and hospitals were included in the space of 436 acres which were covered by the ruins occasioned by the ravages of the destructive element. For the number of institutions existing of late years, Malcolm's Anecdotes of London will afford considerable information. These remarks are by no means intended to weaken the argument of Blackstone proving the claims of the poor to national support, but rather to shew that when individual benevolence is not sufficiently strong, or cannot be roused to the consideration of the claims of indigence, it is the duty of government to step forward and supply its place by directing a just and due proportion of the *public means* into the channels of *public necessity*. Such is the case before us ; and in how degarding a light must appear the claims and pretensions of Indian humanity, when it cannot point to a single institution which owes its origin to the benevolence of Indians. It is painful to observe such a degree of apathy to human suffering existing among so large a proportion of the human race; but while native vanity has been seldom without an object on which to display itself, it has been scarcely ever found possible to enlist it on the side of humanity. While funds, therefore, have been appropriated so munificently by government to the support of public instruction, in which scarcely any but the offspring of the middling and more wealthy orders share, let not the claims of the poor be forgotten, let not the dim eye of the suffering sick be raised in vain to supplicate for relief, nor the groans of sinking humanity be uttered to an inattentive ear. Perhaps in time the natives may themselves be led by example to take an interest in the welfare of such institutions, and ultimately to promote them.

Yours, Mr. Editor,
Nov. 25th, 1835. PHILANTHROPOS.

SYMPATHY BETWEEN MIND AND BODY

To the Editor of the India Journal of Medical and Physical Science.

Whence arises, Mr. Editor, the discordance of opinion, anent the reciprocal action of thought and digestion ? Physio-

logists generally hold that mental effort and gastric indulgence are incompatible; that scholar and gourmand cannot be identical; that belly and brain are rather antagonist than conscutaneous forces of the corporeal commonwealth. Is not the question, indeed, settled by our transcendant Bard, in his famous allusion to "fat paunches and lean pates?" and yet, that flagrant, though insidious pander to reluctant appetite, Dr. Kitchiner, in his seductive volume, the "Cook's Oracle," broadly asserts an opposite doctrine. Speaking of the redoubtable Dr. Johnson, whose pate and paunch seem to have advanced, *pari passu, par nobile fratrum!* "Nature gave him an excellent palate and a craving appetite, and his intense application, rendered large supplies of nourishment absolutely necessary to recruit his exhausted spirits"—adding in italics, the following apothegm. "Animal and intellectual vigour are much more entirely dependant upon each other than is commonly understood," and Samuel Johnson himself is made to say, "if a man will not mind his belly, he will hardly mind anything else." To be sure, Mr. Editor,—for we must not overlook the maxim "*Audi alteram partem*,"—our theologians are reputed to enjoy a charter of longevity, and they are learned! and not less so in dietetics, or they are slandered by the lean vulgar. How is it, Mr. Editor, there is surely a question at issue here? How clutch the Harlequin Truth, with his rainbow garb and magic wand? Endued with occasional celerity of wit, I sometimes reach, though cannot secure him, and therefore hesitate to reveal my vision of the chameleon fugitive. Does not the case, however, come within the meaning of "*In mediis, tutissimis,* &c." or may not both sides be right? To espouse the latter, though I think we must assume an idiocratic predominance of brain, with which a proportionate compass of bowels, may not be incompatible.

B.

SKETCH
OF THE
BENARES NATIVE HOSPITAL.

In the present state of our discussion on the subject of providing for the sick poor, we cannot render a more essential service than add some account of the establishment of the Hospital at Benares under Mr. Burnard. Such an one should be instituted in all our principal cities.

It was founded in 1811 by private subscription of Europeans and Natives, under the late James Robinson, and has been so maintained, with the addition of the interest on its accumulated funds, ever since. The Government, (sanctioned by the Court of Directors) subscribe Sa. Rs. 150 per month. There is also 100 rupees per month directed by Government to be resumed from a jagheer granted in Mr. Duncan's time, to certain hukeems who afforded gratuitous aid to the sick; but whose descendants refused to continue the practice, and a portion of their property was, after due investigation by the Board of Commissioners, ordered to be applied to the Native Hospital's use. These two sums, and the interest on our Government Securities, are our permanent resources. Subscriptions and donations are of course casual and liable to variation. The Government are also liberal in their supply of medicines and instruments.

The general management of the Hospital is under a Committee, and the details, of course, under the Surgeon. A number of rules relative to the admission of patients, by tickets, balloting for committee, &c. have gradually fallen into disuse, indeed, they would only embarrass the operations of the Charity, which is open under regulation 12, to all who apply. The Regulation runs as follows "That all descriptions of Natives unable to provide European medical aid for themselves; or, persons meeting with accidents requiring surgical aid, be considered objects for the benefits of the Hospital." Regulation 14:—"That the Managers do extend the benefits of the Hospital to persons requiring medical and Surgical aid in such manner as they may hereafter judge proper, according to the state of the funds of the Institution." Under this regulation, in 1831, the Dispensary at Secrole was added, and is found to be a valuable auxiliary. It is maintained at the bungalow in Mr. Burnard's compound, at which numerous skilful surgical operations have been performed. Though only intended for out-patients, this Hospital is made to accommodate such cases as require more superintendance than Mr. Burnard could give at the Hospital in the city. A general annual return of the patients, the expenditure and income, is submitted to the Committee, and afterwards to Government, and a quarterly register of in-patients and a numerical return of out, is sent to the Medical Board:—this is only a recent improvement.

The establishment found sufficient is as follows;—

Surgeon	150
Head Native Dr.	20
2d N. Dr. and compounder	22
Leechman	4
Dresser	4
Bhistie	4
Cook	4

Mithur.....	4
Peon.....	4
N. Dr for Secrole Dispensary ..	15
Writer.....	16
	247
Hospital Rent.....	55
Diet allowances.....	75
Bazar Medicines.....	25
	155
	247
Total....	402

These two last items are of course liable to variation, and there is some extra charge occasionally for charpaees, bedding, &c. but the whole is nearly covered by the above sum, or say on the average of 5,000 rupees per year.

The number of patients has for some years past averaged about 8,000.

There is a Blind Assylum on a different establishment from the Hospital, being founded and supported by one individual. Government allowing 90 rupees per mensem for servants, a building and medicines. Mr. Burnard's attendance on this is gratuitous. It is properly intended only for incurables, but being conveniently situated, co-operates admirably with the Native Hospital. Its inmates amount to 90.

HOSPITAL OF THE 2ND OR QUEEN'S ROYAL REGIMENT.

CLINICAL REPORTS BY MR. HUNTER.

William Langley, 4th Light Dragoons, Ætat. 26.—States that since his arrival in India, four years ago, he has been five times in Hospital with hepatic symptoms. —Admitted 2nd instant, with dyspnea and palpitation, for which he has been bled, leeched, &c. with considerable benefit: aspect pale, condition good; apyrexia, pulse at present 108 tense, and fuller at right than left wrist; sleep disturbed by starting and frightful dreams; physical signs—cardiac region from 3rd cartilage fuller, (more raised), than corresponding part of right chest; heart betwixt 5th and 6th cartilages, and arteries over sternum, and up to angles of jaw, visibly pulsating; hepatic region fuller than corresponding part of left side, drooping towards border of false ribs; resonance defective over 4th, 5th, 6th and 7th left cartilages, from sternum to ½ an inch beyond line of nipple; fleshy in right hypochondrium, from below 5th rib, over an unusually large space, extending into epigastrium; respiration high and distressed anteriorly; double sawing sounds over cardiac region, the first loudest above 4th cartilage, the other below that—both very audible in left lateral region; the first only in right axillary, neither in left axillary, though sounds of heart very distinct; systole short, at present scarcely with impulse; diastole, prolonged and large, shaking the chest, as if the impulse accompanied it; diagnosis, dilatation with hypertrophy (by increased extent) of left ventricle; dilatation of left auricle, diseased mitral valve, enlarged liver, morbid state of aortic valve.

Kirkee, 25th August, 1835.

Died, October, 1835

Autopsy, by Depnty Inspector Collier. "Heart enormously enlarged, more than twice the size of the fist; all the chambers of great capacity, especially the left ventricle; the right auricle, if not attenuated, certainly not thickened; the left was rather, I think, in relation to its capacity; the right ventricle fell in when opened; the left was of thickness equal not to the size of the organ, but to a powerful healthy heart; the valves all healthy—two small pouches at base of aorta, the result of a true ulcerative process; one had eaten away the inner and middle linings, and a like process was going on higher up. The coats of the artery, thickened and indurated, creaking under the scissars, up to the innominata—liver greatly enlarged." The diagnosis ought, therefore, to have been dilatation with hypertrophy (by increased extent) of left ventricle dilatation at least, of left auricle; and, in a minor degree, of right cavities. Morbid state of base of aorta—enlarged liver.

Remarks.—The grand error in the diagnosis, it will be observed, was the state of the mitral valve, which we supposed to have been indicated by the sawing sound, synchronous with the diastole; for though aware that dilatation with hypertrophy alone might give rise to a bellow's murmur, we were not aware that it could to the degree of saw. See Note.—We had, it is true, only one opportunity of examining this patient, and that when from nervous agitation, the pulse was at 108; but as considerable allowance was, no doubt, made at the time, we are not disposed to lay much stress upon that, more especially as the state of the pulse, full and tense, ought of itself to have undeceived us. Besides, we are sure, a similar mistake is made in May's case, (see October No. of 1835) for comparing the sounds in these, with that of Madden's (see May No.), the difference is very marked. In the former it was prolonged, sawing, and diffused over a large space, whereas in the latter, it was abrupt, hoarse, and confined

to a small. In Madden's, also, the state of the valve was rendered doubly certain by the additional signs of purring tremor and irregularity of the pulse. The state of the base of aorta was perhaps of minor importance. We suspected some morbid affection at the part, from the sawing sound, synchronous, with the systole, louder above than below the 4th cartilage, and audible even into right axillary region, where that accompanying diastole was not. That it was not dilatation of aorta, we supposed from the want of hoarseness in the sound, and of pulsation and purring tremor over the clavicles. The dilatation of left ventricle was sufficiently evident, from the shortness of systole, length of diastole, and extent of dull sound or percussion, and the powerful back-stroke, together with the tenseness of the pulse, shewed that its walls were by no means attenuated. The dilatation of left auricle may have been a fortunate guess on the supposition of the morbid condition of the mitral valve; or it may have been turned in the reverse way, as the extent of dull sound on percussion in upper part of cardiac region could not well have been mistaken. We more than suspected also dilatation of right ventricle, but as the fleshy sound of liver extended so far in that direction, we did not even note the dull sound or percussion; and without that, it could only have been a guess, for the sounds and impulse of left ventricle might have completely masked those of right.

Note.—In a case like the above, if the dilatation extended to the os ventriculi the valves in their natural state could not prevent regurgitation. Consequently there would be sawing sounds produced, though different from these where the valves were thickened or indurated.

See Cyclopædia of Medicine.

N. B.—The hepatic symptoms and enlargement of liver may, no doubt, be referred to obstruction to the unsupported portal circulation, conveyed backwards from the right ventricle, and were consequently of very minor importance.

And, now, Mr. Editor, should we not be thought too presumptive, we would offer a few practical observations, with reference to the treatment of these affections. And 1st, of blood-letting, the first, and by far the most dangerous remedy. In dilatation with attenuation, we would say, no advantage can be expected from more than a few ounces to relieve the heart laboring under palpitation, and gorged by its own efforts. Even then it can only be of temporary benefit, and if carried to any extent, may be quickly followed by death; the heart, from the want of sufficient stimulus, ceasing to contract; and this, whether from deficiency in the quantity produced by one large bleeding; or in the quality, by small bleedings, too frequently repeated. The same remarks will apply to dilatation with hypertrophy, and in some degree to hypertrophy with dilatation; and even to hypertrophy itself, if complicated with an obstruction, which the hypertrophy may be absolutely required to overcome, for if the action of the heart be reduced below that, according to the degree, death or dilatation with its consequences, must be the result. Even in simple hypertrophy, the bleedings ought not to be large, for large bleedings cause reaction,—and reaction, of course, hypertrophy. Perhaps leeches are preferable after the first two or three times, for they seem to calm the heart's action in a greater degree than the mere quantity of blood abstracted can account for. But if bleeding be injurious in hypertrophy with obstructed circulation, what must it be in all the varieties of dilatation, with such a complication. In such cases, I am afraid we would often have to be contented with a few leeches, an anodyne, and quiet. It is enough, however, we know what we cannot do in the beautiful language of Solomon, "the wheel is broken at the cistern." Of digitalis, we would say, it possesses some advantages, where bleeding is beneficial, but has its disadvantages, where that is injurious. We tried it to some extent with May, (see October No.), but invariably found, when the pulse fell to 71 or so, the palpitations soon followed with great violence. He was always best when the pulse was about 80. For several months, latterly, we did nothing farther than keep him quietly in Hospital, on moderate unstimulating diet, taking away four or five ounces of blood once a month or so, when the pulse began to vibrate strongly, and the lancinating pains to return in his head or extremities; and really I think he did much better. He has been invalided, but Deputy Inspector Collier has kindly promised to take steps to obtain the final result. We have at present a very interesting case of hypertrophy with dilatation, and dilatation of aorta, in a boy, 14 years of age, with whom we are pursuing a similar treatment, substituting leeches for ven. sect., and with very decided benefit as far as regards appearance and comfort.

Of tartrite of antimony, camphorated tincture of opium, and other sedatives, it is unnecessary to say any thing; for where clear pathological views of disease are entertained, there can scarcely, at the present day, be a loss for appropriate treatment. At any rate, the object of this paper has been rather to shew what ought not, than what ought to be done; and we need only

add, without the stethoscope in cardiac disease, it is impossible to adopt any rational plan. Mr. Liston of Edinburgh used, I believe, to compare a physician to a person going into a dark room, where two others were fighting, and laying round him with a bludgeon, as likely to kill friend or foe. And saying, for instance, a bold practioner finding his patient laboring under some disease, in which he looked upon his lancet as his *sheet anchor*, with a complication like the present, what would be the result! Perhaps he would be surprised to find him become comatose, sink and die, probably with the blood issuing from his mouth. On dissection he might be satisfied when he found the lungs broken down and gorged with blood, with probably also effusion into the chest. But what would be the fact! The left ventricle having been deprived of power to carry on the circulation, the brain was the first to suffer; and the blood accumulating behind, broke down and effused itself into the pulmonary tissue. The bludgeon had fallen upon his friend.

Camp, near Poona, 16*th Nov.*, 1835.

DISEASED BLADDER.

Communicated

By W. A. Green, Esq.

X. Y. a prisoner, 80 years of age, was admitted into Hospital on the morning of October 23. His symptoms as follows : swelling of the integuments of penis, pain on making water in perinæum, shooting thence to pubis and along penis ; his urine dribbles from him at short intervals, each time attended with a return of pain ; his tongue brown and dry, pulse feeble. He says he had a similar attack ten years ago. I ordered 20 leeches to the perinæum. Ol. Ricini. ℥j. semicupium. mucilag. gum. araba. ℥j. Tr. opii. ɱv. sp. æther. nitr. ɱxv. 4tis. hor. a dose of senna and salts to be given at night if necessary.

October 24th. The bowels have been freely moved during the night by the salts and senna, the leeches bled freely, the tongue is moist. This morning great feebleness of pulse, urgent symptoms the same : ordered to repeat both, to repeat mucilage mixture, to drink freely of congee water : sago diet, blister to sacrum. Even : I found the urine dribbling from the man, he was suffering great pain ; passed a catheter with difficulty, and with a feeling of obstruction at the prostrate gland; immediately a fœtid thin blood like fluid issued through the catheter, afterwards urine slightly discolored passed; great relief was experienced from the introduction.

10 ol. (night).—Again attempted to pass the instrument, but failed.

October 25. Urine trickling by drops, and great pain, skin dry, tongue moist, feeble quick pulse, the integument of penis considerably swollen; there is hardness over the region of the bladder and pain on pressing that part of the abdomen ; passing the finger up the rectum the bladder is felt to descend more than usual into the gut : ordered to repeat bath ; repeat mucilage with sp. æther. nitr. extract opii. gr. ¼ 4tis. hor.

Even : The catheter was passed during the day. The same fœtid bloody fluid escaped. The catheter has been left in the bladder at his own request ; blood-stained urine flows through it ; he is under the influence of opium ; tongue remains moist.

26th. He removed the catheter himself during the night; there is stupor this morning which I attribute to the narcotic ; urine escapes in drops from penis. The urinary organs appear to be in a state of turgescence ; there is a defined bulging over the bladder in the hypogastrium, and also in the perinæum, according with the track of the urethra, attended with great pain on slight pressure : ordered to omit opium, to repeat mixture and bath, to take Ol. Ricini. ℥vj. to get an enema of Tr. opii. ℥ss. in congee water.

Even : much the same ; bowels have been moved,stools healthy : ordered to repeat gr. ¼ of opium, bath, passed catheter with the same result as before.

27th. The symptom the same ; he is sinking

28th. He died very early this morning.

P. M. Ex. 7 hours after death. Upon dividing the abdominal parietes, the cellular tissue and fat covering the abdominal muscles, and extending over the illiac and hypogastric regions, found in a state of slough, infiltrated with pus, a little sanious fluid ran off during the incision of the part; internally the parietes adherred to the bladder which was distended ; but upon separating them with the fingers the abdominal peritoneum appeared entire. The bladder presented externally a purple color, its proper peritoneal covering easily separated from it, exhibiting the fat and structures between it and the bladder of a deep purple color, the large blood vessels going to the bladder were quite natural; by pressure upon the bladder during the act of removing it out of the pelvis, the same kind of bloody fluid, which passed during life, poured from the penis (thus showing that the passage of the urethra existed) : upon dividing the urethra close to the pubis (from within) with the view of removing the bladder, &c. a sloughy cavity, of the capacity of two walnuts, was cut into, a portion of the walls of this cavity was left adherent to internal aspect of pubis. This sloughy cavity surrounded the membranous part of the urethra. The walls of this cavity were partly formed laterally by the

levatorani muscles passing the catheter by the penis, and from the bladder outwards, in both cases the instrument presented itself in the centre of the sloughy cavity : upon the division of the urethra, at least, a pint of the before mentioned thin blood, having a strong ammoniacal smell, escaped from the bladder. The mucous membrane of the bladder was of a deep blue color, studded with granules, ulcerated superficially in patches ; it readily peeled off from the muscular coat and was not enerally thickened ; about the neck of the bladder the membrane was smooth and natural, the prostate healthy, smaller than usual, the muscular coats of the bladder, from two to three lines thick, the individual fibres remarkably developed; the vesiculæ seminales healthy, not at all implicated in the morbid structure. Dividing the perinæum, the adipose tissue and muscles between the anus and urethra were found natural : upon cutting deep as in the operation for lithotomy, the tissue immediately around the course of the urethra was found discolored and sloughy—this condition of parts continued up over the front of the pubis to join the morbid state of the abdominal parietes. The membranous portion of the urethra lying in the midst of the morbid structure, had not its walls thickened ; the two divided extremities were ragged, but this I attributed at the time to several strokes of the knife during the removal of the parts.

Remarks.—The description of the P. M. appearances may not be quite clear ; indeed, I am not myself prepared to say whether extravasation had taken place during life or not. I do not know how the sloughy state of the parts immediately around the urethra, throughout the greater part of its course, commencing from the membranous part, and the similarly morbid state of the abdominal parietes are to be otherwise explained; and yet during life there was a passage, the urine passed by the proper course, and moreover, there was not found the usual diffused swelling such as occurs when the contents of the bladder escape. It is evident that the disease of the bladder must have been of long standing, and that no treatment could be of any avail. The thin dark blood found in the cavity of the bladder I apprehend exuded from the blood-vessels of its mucous membrane. There was not a state of the parts during life to warrant cutting down upon the urethra, particularly as the natural channel was open, and a catheter could be introduced. The walls of the sloughy cavity appeared to be chiefly the natural parts consolidated. This condition might have been the result of inflammation, produced by the long standing disease in the bladder, and thus a sac formed which prevented the diffusion of the extravasated fluid.

REVIEW.

SOME ACCOUNT OF THE FEVERS WHICH PREVAILED IN CALCUTTA IN THE YEAR 1833. BY W. TWINING, ESQ. PRESENTED APRIL 5TH, 1834.

ON EPIDEMIC DISEASES, WHICH OCCURRED AT BANGALORE DURING THE YEAR 1833. BY T. MOUAT, M. D. PRESENTED APRIL 4TH, 1834.

OBSERVATIONS ON THE FEVER WHICH PREVAILED AT HOWRAH, DURING THE MONTHS OF JUNE AND JULY, 1834. BY DUNCAN STEWART, ESQ. M. D. PRESENTED AUG. 2, 1834.

TRANSACTIONS OF THE MEDICAL AND PHYSICAL SOCIETY, VOL: VII. PART II. CALCUTTA, THACKER AND CO : 1835.

With whatever circumstances epidemics may be connected, they are unquestionably ascribable to those physical disturbances which are dependent on the revolution of the seasons. To be convinced of the correctness of this position we need but examine the effect of physical changes which have for the last sixteen years occurred in our Eastern possessions. In these tracts every extraordinary change of season has been attended with pestilence, and consequent devastation and misery. Though we acknowledge that the history of epidemic diseases is at all times deeply interesting, yet it is to be regretted that the obscurity in which their causes are involved has not been dispersed by more enlightened views than those which even the most able and experienced have yet developed. When we consider the misery and wretchedness caused by the inroads of this ruthless enemy to human happiness, the destitution of widows, and the bereavement of parents, and behold around us innumerable victims to lingering and loathsome diseases, we are struck with awe, and can find consolation only in the existence of one powerful agent which alone, through the blessing of Divine Providence, is able successfully to combat the enemy—we mean Medical Science, which like a bold and experienced warrior buckles on its armour, and rushing fearlessly through the terrific ranks of contagion, stems the sweeping torrent, and at length successfully repels the invader.

The Transactions of the Medical and Physical Society of Calcutta afford a gratifying proof, that medical men in India are fully alive to the vital importance of their vocation, and that, whilst they have toiled with unwearied zeal and uncommon skill at the bed side of the sick, through the different stages of disease, they have not failed to observe with attention its modifications, the result of its treatment, and the means of its prevention, and to note down their observations with care and accuracy for the guidance of their professional brethren in this and other parts of the world.

Mr. Twining in his account of the fever which prevailed in Calcutta during the year 1833, alludes to the unusual degree of heat felt in the months of April and May, and to an inundation of the sea caused by a tremendous gale on the 22d of May, by which numerous lives were lost, cattle destroyed, cultivation ruined, and extensive districts rendered unhealthy. These, in Mr. Twining's opinion, were causes the influence of which took considerable time to reach the inhabitants of Calcutta. Those who had been located within the range of the inundation suffered early and severely, the residents at Diamond Harbour came to the Hospital a few days after the occurrence of this calamity, and patients who had been wrecked or otherwise exposed to the inclemency of the weather during the gale, crowded the wards of the hospital for several months. In July and August the extent of sickness increased and became alarming. Under these circumstances, Mr Twining had just grounds for considering the causes of this epidemic to be in the Malaria generated by the inundation and high temperature. But while such was the state of things in Bengal from May 1833, at Bangalore, according to Dr. Mouat, there had been an unusual continued drought, which was suppposed to have caused the extraordinary degree of sickness that prevailed in those parts simultaneously with the epidemic in Bengal.

It appears that during March, April, May, and June, cholera was to a great extent committing its ravages at Bangalore. It was generally preceded by a severe catarrhal fever or influenza, and ended in dysentery. Dr. Mouat observes, that, since the arrival of the 15th Dragoons in India more men had been treated for disease in that year than in all the others put together. The cause of the epidemic from the account of this physician appears to have been general and extensive. It attacked all classes, sparing neither age, sex, nor constitution, and extended from the extremity of the Horse Artillery lines to those of the 35th Native Infantry and other Native corps, H. M. 15th Dragoons, and 62d foot, including the families of the men, the camp followers, and the families and servants of the officers resident in the cantonments. It however entirely excepted about a hundred persons in the European Foot Artillery. The extent of the cholera in one corps is shewn by the following table.

Return of Men, Women, Children, and Native Followers, treated for Cholera in the Hospital of H. M. 13th Dragoons, from 1st January to 31st December, 1833.

Months.	Men.			Women			Children.			Followers.		
	Admitted.	Discharged.	Died.	Admitted.	Discharged.	Died.	Admitted.	Discharged.	Died.	Admitted.	Discharged.	Died.
January,..	0	1	0	0	0	0	0	0	0	0	0	0
February,	5	3	0	2	1	1	0	0	0	0	0	0
March,....	53	26	4	2	0	0	8	3	2	0	0	0
April, ...	85	88	8	9	10	1	15	5	2	6	6	0
May, ...	43	49	2	8	6	2	9	8	2	2	2	1
June, ...	7	10	0	1	1	0	1	1	0	0	0	0
July, ...	1	3	0	0	0	0	0	0	0	0	0	0
August, ..	3	2	1	0	0	0	0	0	0	0	0	0
September,	0	1	0	0	0	0	0	0	0	0	0	0
October, ..	1	1	0	0	0	0	0	0	0	1	1	0
November,	1	1	0	0	0	0	0	0	0	0	0	0
December,	3	2	0	0	0	0	0	0	0	0	0	0
Total, ..	202	187	15	22	18	4	33	27	6	9	9	1

Dr. Mouat makes the following observation regarding the influence of the weather on the incursions of the cholera.

"This has been the first epidemic appearance of the disease amongst the European troops at this station. In former years, a few cases did occur occasionally, but they were neither general nor very violent. Why it should the last year have been so prevalent, so general, and so fatal, it is vain to attempt a solution. True, it was a dry, hot, disagreeable, and unhealthy year, little or no rain having fallen, but this is merely giving the fact; since cholera has now traversed the greater por-

tion of the globe, and seems to have raged in wet as well as dry weather, under the "copper sky" and fiery hot winds of India, as the freezing snows of Russia ; so that it is useless to draw any conclusion from the late unusual weather."

Dr. Mouat has also given a table, shewing the periods the men had been ill, previous to their admission into Hospital. This table leads to the following important deduction.

"Of 151 who came into the hospital within four hours of the invasion of the disease, only two died, whereas it proved fatal in a large proportion of those who had been ill 5, 6, or 7 hours, since there were seven deaths in thirty-two seizures, and particularly two who had been ill 12 hours, and two who had been attacked 14 hours, since one only recovered. So that making due allowance for the severity of the attacks or the predisposition to the disease, or the habit, &c. of the patient, we may safely conclude that, the violence of the seizures depends in a great measure on the period the patient is admitted into hospital, or comes under medical treatment."

On the subject of age and habit, Dr. Mouat observes as follows.

"It did not appear that any age or habit was more subject to its attacks than another. Thus there were more seizures from 25 to 30 years, than at other periods, which corresponds to our having more men of that age, than any other in the Regt. The mortality was confined to no period."

Our physician then alludes to the important inquiry—how far the disease was influenced by locality, gives a table, and proceeds as follows.

"The foregoing shews that locality had little to do with the matter, yet that only about one married man out of six was attacked, in proportion to the seizures, though the latter amounted to a third of the whole regiment. But the mortality again preponderated in a most extraordinary degree against the married men. For out of 34 attacked, seven married men died ; whereas, out of 158, not married, there was nearly the same number, which in the former, was as high as 1 to $4\frac{6}{7}$, and in the latter, only 1 to $19\frac{3}{4}$. This has not been confined to the present epidemic, since we have observed it in former visitations of the malady. It was then endeavoured to be explained by the married men living separately, being less under the eye and control of their non-commissioned officers, and therefore not sent into hospital at so early a period ; as well as the anxiety and depressing passions, when admitted, as to their fate, in its consequences, to their unprovided or helpless families."

In his observations on the fever which prevailed at Howrah, Dr. Stewart appears unable to assign any cause for the unusual degree of unhealthiness which prevailed there. He had not observed any peculiarity in the state of the weather, beyond a greater frequency of squalls from the North East and a more than usual degree of disturbance in the electric equilibrium of the air. The epidemic had in turn attacked all the Professors of the Bishop's College, their families, the Students, and the servants, to a degree that the establishment was entirely broken up for two months. In order to afford the reader some information regarding Howrah where the fever prevailed, Dr. Stewart gives the following graphic description of the place.

"The suburb of Howrah extends along the west bank of the Hooghly, from the Botanic Garden to Gussery, a distance of ten miles ; the bank is, for the greater part of the way, low, shelving, and muddy, and subjected twice a day to the tide. The village of Howrah, in the middle of this district, and directly opposite to Calcutta, is thickly inhabited by a hard-working class of people, European and East Indian, chiefly employed in the various ship-building dock-yards and manufactories on that side, or occupied in the small craft on the river. There are still, in many parts of the village, large and stagnant shallow tanks, and marshy foul drains, covered with rank vegetation, and till within the last few years, the high street of "our village;" and the roads in its neighbourhood, were kutcha, (i. e. of mud or clay). When to such elements of malaria was added the dense population of native labourers, to the number of 6 or 7000, employed daily in the dock-yards, salt golahs, &c. and marching home in troops at night, to their wretched ill-thatched straw hovels, and their frugal rice-fare, the reproach, which belonged to the place, when I joined the station, seven years ago, of being frightfully unhealthy, is sufficiently accounted for.

Within the last few years, however, by the benevolent and liberal exertions of the residents, and the concurrent aid of our late worthy magistrate John Master, Esq. a good puckah road and several puckah streets have been made through the town, many of the worst tanks have been filled up, some marshes effectually drained, and close ditches opened out. There has likewise been established, by subscription, a native hospital and dispensary, for the relief of the poor, which, according to the public report for last year of my zealous and able deputy and friend, Dr. John Jackson, has afforded medical relief, and the means of temporary subsistence to upwards of 6000 individuals, 280 of whom were treated in hospital, being cases of acute disease, or such as required surgical operations."

The following comparison drawn between Garden Reach and the locality of Bishop's

College demands the most serious consideration of the inhabitants of the former place, as regards its unhealthiness.

"To the crowded vegetation around the garden houses, the imperfectly kept state of the drains, the unsuitable clothing, diet, and habits of the residents, I may safely allot a large share of the reproach now attached to Garden Reach, and may justly contrast it with Bishop's College, upon the opposite bank; the grounds all around which are kept clear and open, the grass lawns closely cut, the canals and sluices in excellent order, and opening freely upon the tide: above all, the regular living, the academic habits, the cheerful mental occupation, and appropriate costume of the collegians have the greatest possible influence in preserving to Bishop's College its boast of not having lost one inmate by death for seven years."

Having given some idea of the causes and the localities where the diseases we have alluded to prevailed, we shall proceed to examine the nature of the epidemics and their treatment, in which, we regret to say, some difficulty occurs owing to the utter disregard to classification. But we must not make assertions without affording proof to our readers. The following is an account of the fever that prevailed in 1833 and with which Mr. Twining commences his paper.

"An unusually oppressive hot season, more particularly during the months of April and May, was productive, at that time, of no remarkable increase of sickness in Calcutta. There were, however, several cases of determination of blood to the head, threatening Apoplexy, but unconnected with fever;—they were ascribed to the high temperature, and extremely oppressive state of the atmosphere. A considerable number of catarrhal fevers then occurred in adults, in which, affections of the mucous membrane of the throat were severe, occasioning much hoarseness, and in some cases suppression of the voice: there was also pain and stiffness in the muscles of the neck, with some oppression at the chest; and several of these patients had a red efflorescence over the whole skin, on the 2nd or 3rd day of the fever. These cases did not require blood-letting,—but were safely treated by mild aperients, and antimonials; with rest, and restriction for a few days to diet of tea and bread. At the same period the common inflammatory fever frequently occurred, and its worst cases appeared among those who were exposed to distress, fatigue, and privations, during the gale of wind and inundations which happened about Diamond Harbour and the vicinity, on the 22nd of May. The local affections attendant on these fevers were for the most part referrable to the head and stomach; in some cases acute inflammation of the liver was present,—and affections of the spleen were observed during the course of the disease, but more especially towards its termination. In many of the patients with this description of fever, the tongue was at an early period of the disease, dry, much loaded, and occasionally of a brownish tan-color. In the treatment, free use of the lancet was requisite, and on some occasions the bleeding was repeated within four hours, with much benefit. There was not often occasion to take above 20 ounces of blood, at the first time, and ten or 16 ounces on the 2nd: most of these patients had the head shaved. In some of them, a degree of morbid heat of head and other symptoms indicative of continuance of cerebral affection, required the application of leeches once or oftener, to the temples. At the commencement of this treatment, namely, in two hours after the 1st V. S., the bowels were freely purged by a dose of Jalap or Senna and Salts; and from 6 to 12 grains of Calomel or the same quantity of Blue Pill, with 4 grains of Antimonial Powder were given at bed-time, and a moderate dose of Jalap, or Senna Mixture next morning. When much morbid heat remained after blood-letting, the cold affusion, used at an early period of the disease, often produced a most favourable change, allaying morbid heat, and diminishing the frequency of the pulse; sometimes the repetition of this remedy was requisite in two or three hours. I disapprove of cold washes continually applied with cloths to the head; they cool the exterior and diminish the circulation on the surface, but they prevent a perspiration on the forehead, which when it exists usually alleviates internal congestion, and is often the forerunner of general moisture of the surface. I have too often seen the head and pillow kept wet, much to the injury of the patient, even when mercury was given in large doses. The transient employment of cold effusion to the head, by directing a small stream of water from a height, in such manner that it shall fall on the head, but the patient's bed shall not be wet, is often of advantage. This remedy need not be continued long at a time: and must be considered as an adjuvant to depletion, but not as a substitute for it. The effects of affusion of cold water on the head, after adequate venesection, are to diminish morbid heat of the head, and to subdue the remains of inordinate arterial action of the brain. When this remedy is found useful, it may be repeated at short intervals, if dry heat of the forehead should return. When employed in the early stage of ardent fever, and soon after blood-letting, this is frequently a remedy of considerable efficacy in assisting to remove active congestion of the brain.

In other cases the symptoms of gastric affection were predominant, and morbid tension at the præcordia, with pain on pressure, attended by sickness and vomiting, required, besides the use of the lancet, the frequent application of leeches to the region of the stomach; and after the arterial action and morbid heat were subdued, a degree of irritability of the stomach occasionally called for the employment of a blister. In those cases, in which gastric affection was predominant, the frequent use of drastic purgatives was

avoided, and after the bowels had been thoroughly emptied by an affectual dose of Senna Mixture or Jalap, mild aperients were ordered only when any evidence of accumulation in the bowels existed: and when enemata could be made to procure evacuations, other means were avoided. Under the existence of much gastric irritability, the frequent employment of strong purgatives is apt to produce flatulent distension of the belly, to increase gastric irritability, and not only to fatigue the patient by causing frequent efforts to rise to stool, but sometimes repeated watery evacuations, especially after saline purgatives, are apt to be followed by dangerous exhaustion, more or less allied to the collapse of Cholera. It happened not unfrequently, that a tendency to diarrhœa existed with the first symptoms of febrile affection, and then more particularly, the object was to subdue inflammatory action without increasing gastric or intestinal irritability."

Now we should much like to know how, from such an incongruous outline of symptoms and treatment, is the young medical practitioner to ascertain the line of management he is to adopt in regard to the disease: how is he to form a correct prognosis and diagnosis, and then determine upon a proper line of treatment. We are indeed sorry to be compelled to say, that in the paper before us, there is so much to bewilder and confuse him, that we feel ourselves unable to afford him any satisfactory clue. We will not, therefore, attempt to disentangle the author's views; but proceed to notice his more lucid description of the epidemic when it assumes the form of the remittent fever of Bengal.

"From about the middle of July to the end of October, a different form of fever prevailed, and we had most ample opportunities of observing the *Remittent Fever of Bengal*, in a greater number of cases, and with its peculiar characters, more exquisitely marked, than I have seen it for many years past. This fever, at its accession, varied much: some degree of rigor occurred once at an early period of the disease, in a considerable number of patients; in many cases, the attack was sudden, and on the first or second day of a patient's illness, there was no doubt of the dangerous character of his complaint. Excessive re-action appeared at the commencement of the paroxysm, with very great determination to the brain; the eyes became blood-shot, the forehead hot, and the countenance swollen. The exacerbation generally began before nine o'clock A. M., reached its came soon after 12, and was then followed by by a corresponding prostration of vital power; with profuse perspiration, coldness of surface, and rapid weak pulse: the coldness in some cases went on increasing, and terminated in death. In the majority of cases of Remittent Fever of this season, the tongue was moist, nearly clean, and sometimes appeared pale and swollen. Distinct symptoms of inflammatory affection of the liver were very rare; but towards the decline of the fever, in debilitated patients, an enlargement of the spleen, with its corresponding constitutional disorder, was frequently seen; and in a few instances, there was a high degree of gastritis. In this season I did not observe more than one paroxysm in the 24 hours; and there was only a small proportion of cases in which the exacerbation took place in the afternoon or night. The most remarkable circumstance connected with this form of fever, was the extreme degree, but transient nature of the determination of blood to the head. Although the paroxysm was not of long duration, the effect of each return of pyrexia was in general evident in the more severe cases, each paroxysm leaving a more permanent cerebral disorder than previously existed, and being followed by more decided prostration of strength.

* * * * *

"Soon after the beginning of November, a decided change was evident in the character of the fevers which occurred. For some time before this, cases of the worst kind of remittent fever had become rare; and, as usual, the commencement of northerly winds, foggy mornings, and a lowered temperature of the atmosphere at night, were attended with intermittent fevers: tertian being the prevailing type. Local visceral affections were certainly more strongly marked in the agues of this season, than I have usually observed in former years: and affections of the spleen and lungs were much more frequent than they have happened formerly."

In regard to Mr. Twining's treatment of the disease, it is necessary to be more particular.

"In the treatment of the Remittent Fever of 1833, the greatest vigilance was requisite, not only to employ active remedies, but to use them at a proper period;—for instance, V. Se proved of the utmost benefit, if employed at an early stage of the disease, and at a time of the day when the febrile symptoms (more particularly the morbid heat, and reaction of the heart and arteries) were increasing in violence; but, dangerous or fatal consequences are liable to occur, if blood-letting be indiscreetly used, when the reaction is declining, and the pyrexia subsiding, and after free perspiration has existed for some time. Even the application of leeches, when the paroxysm is on the decline, is liable to be followedby prolonged faintness and fatal prostration of strength; and I am certain that strong purgatives have occasionally done irreparable injury, when used at such period of the disease. With a due degree of caution as to proper time in the use of depletion, and active measures generally, I may state, that in my practice, the greatest benefit was observed to follow the early use of the lancet. The desired effect was almost always produced by one bleeding; after which, the application of leeches to the head or epigastrium, at that time of the day when the morbid heat was

increasing, was found sufficient to remove local congestion.

I would here wish particularly to notice the importance in all cases of Remittent Fever, of bleeding the patient in the recumbent posture, and if possible, to avoid inducing faintness. It is not less requisite in the severer cases, to prevent sick persons from rising to stool; especially towards the termination of the paroxysm, when profuse perspiration has taken place, and tendency to collapse is impending.

The abstraction of blood at the commencement of the first or second exacerbation of remittent, was invariably of benefit, it seemed to insure an early convalescence, and safe termination of the disease: but at later periods, unless indicated by a high degree of arterial action, or distinct symptoms of local inflammation, blood-letting was a doubtful remedy. The remote benefit, which is derived from V. S. at an early stage of these fevers, is very important, as visceral disease and obstructions are rare in those who are bled soon after the accession of the fever.

As soon as the violence of the pyrexia began to abate, it was requisite to have the sulphate of quinine in readiness, and when the fever had subsided, to administer two grains of that remedy every second hour for four doses; and in the more intense forms of the disease, to give a dose of four grains of that medicine at seven o'clock on the next morning, and to repeat it at eight, for the purpose of anticipating and preventing the accession of another paroxysm; whereby, the dangerous consequences liable to occur from effusion or inflammation at the commencement of a paroxysm, or from collapse at its termination, were all avoided.

I would speak of purgatives, after the due employment of depletion by the lancet, and the use of quinine: for life often depended on the management of a single paroxysm by those means. The administration of purgatives was in all cases indispensible: calomel or blue pill and compound extract of colocynth appeared to answer best, due care being taken to avoid as far as possible the use of mercurials in cases where the spleen was enlarged.

When there was much anxiety and prostration of strength, with sense of lowness and exhaustion at the præcordia, on the subsidence of a paroxysm; the application of a synapism to the epigastrium for an hour was in general attended with the utmost benefit; and in all cases where local inflammation did not exist, some farinaceous food was requisite at that stage of the disease. Sago in very small quantity, with some wine, was usually preferred; a desert spoonful of sherry, with a wine glassful of sago, given in the intervals of the doses of quinine, were in general sufficient, It is surprising in these cases how little food will answer all useful purposes, if it be given at the proper period.

I would beg leave to say a few words relative to those severe cases of continued fever, as well as remittent, in which active treatment was not commenced early, or where from particular violence of the disease, local inflammations and congestion could not be subdued by the lancet, aided by leeches and purgatives. A degree of local disease of the most dangerous nature is then liable to take place. I allude to the sero-albuminous effusions from the capillary vessels, which take place between the tunica arachnoidea and pia mater, at the top of the hemispheres of the brain, as well as at its base, and in the spinal canal between the arachnoid and dura mater. Similar effusions also occur at the root of the mesocolon, and in the cellubar structure about the duodenum. These effusions sometimes seem to coincide with the natural subsidence of active pyrexia, and a material change in the patient's condition; which change is of an unfavorable character, and too often proves the precursor of death. In those cases, when the effusion has taken place in the cellular structure about the duodenum, or at the root of the mesentery or mesocolon, there is usually much anxiety and prostration of strength, with some fulness of the belly. When the cerebral effusions occur, there is more or less of stupor, and indifference; although the patient often answers questions correctly: he lies on his back, with the limbs stretched straight, or he slides towards the foot of the bed; the face is often pale, and the pulse slow and soft, or the cheeks are slightly flushed, and the pulse quick and weak; the pupils are usually small, and the morbid heat moderate, if not subdued. In the latter stages, the hands are often put forth to grasp some imaginary object. When a patient is approaching the state above described, the only chance of saving life is by the free administration of mercury; if the patient be not already salivated, 12 grains of calomel, or the same quantity of blue pill are to be given three times a day, and if any degree of morbid heat remain, four grains of antimonial powder are to be added to each dose. If there be not a free stool once a day, it is requisite to give a small dose of jalap, with cream of tartar, once in 36 hours; but if there be little or no morbid heat, and a watery purging exist, it is often necessary to combine some opium, or some hydrag. cum creta, with the calomel, and to use mercurial frictions. Small quantities of cream of tartar and sp. æther. nitros. added to the drink, are also often of service by acting as diuretics. In these cases the frequent administration of purgatives is injurious, by preventing the due action of mercury; and active purging is apt to bring on a tympanytic state of the belly, which must be regarded as a most dangerous symptom, when induced by purgatives at this stage of the disease."

Mr. Twining says that in his "practice the greatest benefit was observed to follow the use of the lancet. The desired effect was almost always produced by bleeding; after which the application of leeches to the head or epigastrium, at that time of the day when the morbid heat was increasing, was found sufficient to remove local congestion." Now, our situation in the garrison of Fort William

happened to afford us ample opportunities of observing this fever in all its forms, in all sorts of people, and in all parts of Calcutta; but in regard to bleeding, the result of our practice was just the very reverse of that adopted by Mr. Twining. When the fever first occurred in its remittent form, the violent pain in the head served to indicate the expediency of blood-letting by which it was expected that arterial action would be lessened, and a disease which otherwise threatened to be severe and protracted obviated or mitigated. In the first case which came into our hand, we directed at the commencement of the attack leeches to be applied to the head: but such was the sinking and prostration induced by it, that we found blood-letting or topical bleeding was not only useless but injurious. The hurried, contracted, hard and full pulse which occurred, we found to be the commencement of the paroxysm, analogous to that state of the circulation which occurs in the first stage of intermittent paroxysm, in which bleeding in this country does serious injury, if not in all, undoubtedly in the majority of cases, by terminating in dysentery or other lingering affections. By careful observation we ascertained that the real nature of this particular condition in this fever, although assuming all the appearance of being inflammatory, was, like the topical symptom of head-ache, in its result quite opposed to local inflammation or inflammatory action. In setting forth this proposition, we are not forgetful of the axiom of a learned and celebrated writer—that in a limited observation to which only one or more cases of the most unfrequent effects of a medicine may have occurred, one is in danger if erecting an exception into a rule, by mistaking these facts for instances of its universal effect. It is only by comparison, founded on extensive averages, that truth can be ascertained. Hence the danger of founding a general practice on the experience of a single or a few cases. In affirming our opinion against bleeding, we give it as the result derived from the treatment of hundreds of patients, not one of whom died,—not one of whom relapsed into any chronic affection; but most of whom were able to resume their usual occupations after the sixth day. In regard to the deaths which took place among Mr. Twining's patients; he observes, as follows:

"Speaking from my own experience of the fevers of 1833, I would say that the deaths which took place were principally owing to improper or injudicious management of the patients themselves, after convalescence was far advanced. The fatal classes from this cause occurred more frequently among the foreign sailors, than any other class of people. The hospital charges which captains of ships have to pay, induced them often to remove their sick prematurely, when they hoped that ordinary domestic care, and a few days rest, would be sufficient during convalescence. The consequence was, that many of those poor people had repeated relapses of fever; some of them returned to hospital three or four times, and it was principally among them that the fatal cases occurred:—a few died during the stage of pyrexia, from determination to the head; but many more were carried off at protracted periods, by diarrhœa and diseased mesenteric glands, or other chronic visceral disease. Some cases only came under treatment after they had fallen into a state of stupor from effusion of blood into organs or structures important to life.

Those cases of fever which came under treatment at an early period of the disease, and for which V. S. was promptly and freely used, recovered quickly. In several instances of patients admitted on the eighth and ninth day, and in one instance, so late as the 15th day of fever, the lancet was used with most decided benefit. At the same time, let me confess, that free abstraction of blood at those late periods of fever, requires the utmost caution; and in many cases, where nothing else can save life, there is much hazard in using the most powerful remedy. The patient must, in such cases, be carefully watched, and every accessary remedy, such as early use of quinine and judicious administration of food and wine, must be used in proper time. In these cases, life depends on promptitude and discrimination in the administration of these important adjuvants, quite as much as in the previous use of the depletion, which in fact renders them efficacious."

Mr. Twining's method of using quinine and purgatives differed greatly from that which we followed in using those remedies. The treatment should be prompt, bold, and decisive. The mode adopted by us in regard to an adult patient was to give at the onset calomel from 15 to 20 grains, which was followed up four or five hours afterwards with a purge of Magnes Sulph. in infus senna. Two hours after the time of giving the purgative, we administered from seven to eight grains of the sulphate of

quinine every four hours. In some cases only it was necessary to repeat the calomel and purgative. When great irritability of stomach existed, instead of the senna and salt mixture, we prescribed Ext. colocynth gr. xv. combined with Hyd sub gr. v. The sulphate of quinine was continued for three or four days, but never beyond the fifth; cold applications to the head had the injurious tendency of retarding moisture on the skin; they were therefore prohibited.

Dr. Mouat, in alluding to the cholera, as the prevailing epidemic at Bangalore, gives a series of facts to prove that the disease was not infectious. On this subject our author observes.

"Besides, in camps and military communities, and indeed in society in general, the common relations of life require the most free intercourse; hence, how easy it is to trace, by a little ingenuity and research, a communication amongst all its members. Also, how uncertain and difficult it becomes to separate, that which arises from contagion, or infection, and that which is caused by an epidemic state of the atmosphere itself. Therefore, many justly consider both states as essential, and appeal to the known phenomena of epidemical visitations of contagious diseases, for the proof. Be this as it may, still the common experience of mankind has shown that Inoculation will produce the Small-pox, and this again, the natural Variola, and *vice versâ*, and therefore, there can be no doubt of its being communicated from one individual to another. Again, the marsh malaria will give a specific disease to those who are exposed to its influence. Yet, this is not under ordinary circumstances infectious, or till some new power is acquired in its action upon the animal frame, though this has been doubted. How are we then to reconcile the fact of 115 men, joining a regiment, during the prevalence of cholera, and only one man getting the disease, if it were contagious. Thus, from the 21st March to the 23rd June, 1833, H. M. 39th Regiment had 140 cases of cholera, which out of 750 men gives nearly a proportion of one seizure out of every $5\frac{1}{3}$* of the whole corps; whereas that of the volunteers is 1 to 115! This detachment, joined on the 4th of April, at the height of the disease, from Hydrabad, after a march of 371 miles, was at once promiscuously mixed with the whole regiment, and yet only one solitary mild case occurred. Can any of the phenomena usually ascribed to a contagious disease explain the exemption?"

In alluding to the attacks of the catarrhal influenza which preceded the cholera, Dr. Mouat observes, that for the most part the patient awoke with a feeling of cold which was succeeded by rigours followed by flushes of heat, giddiness or violent headache, distressing muscular pains all over the body, rawness and pain in the chest and throat, hard and dry cough, and heavy watery red suffused eyes. The whole terminated in high fever, bronchial or pulmonic disease, and inflamed tonsils. When early and actively treated the disease generally lasted from three to four days; after which period only a slight cough, some expectoration and debility remained; and the fever lasted only three days. Out of 341 patients treated, only one died, and that was a weakly and delicate child. The following is a description of the treatment.

"Venæ Sectio was generally and largely used, and even repeated. Of 120 men admitted, 103 were bled, and 49 had leeches applied, either to the head, to the throat, or to the chest. After the bleeding, either an emetic of Ipecacuanha, or a scruple of calomel, with one grain of Tartar emetic, was exhibited, and this followed up by saline purgatives with Tartar emetic, which in general both vomited and purged, and determined to the surface. Repeated emetics were given when the cynanche was severe, and they gave most relief. The expectoration was promoted by the inhalation of the vapour of hot-water, as also the squills, digitalis and the gum ammoniac in the cough mixtures, with diluents, &c. Some took the antimonial or Dover's powder, to determine to the surface, and several the warm bath. Where the pulmonic affection was severe, small doses of calomel and Tartar emetic did good as also the Pulv. Ipecacuanhæ, in ten grains doses, frequently repeated. Fomentations to the chest, and volatile liniment applied, did good; but blisters, except to the throat, seemed to irritate too much, excite constitutional fever, and protract the patient's recovery and stay in hospital. In some of the pulmonic cases which seemed peculiarly obstinate, probably from being of a rheumatic nature, relief was afforded by small doses of calomel and antimony persevered in till the mouth became affected. Strong gargles, sometimes with capsicum, were used for the cynanche cases.

The women, children, and followers were treated with emetics, calomel, and saline purgatives; leeches, warm plasters to the chest, and even blisters; warm baths, Ipecacuanha, saline mixture with the tartarized antimony, and gargles for the sore throat.

The foregoing treatment was eminently successful, if we may judge by the results. In the bazars amongst the native population, the disease is said to have proved distructive to many."

* Deduct the 115 men, and then it would be about 1 out of every 4.535.

On the subject of cholera, the following remarks are of importance: we shall not therefore attempt to abridge them.

"In May, from the precautions taken to detect the disease or the alarm which prevailed, the men reported themselves earlier, and the disease was generally arrested at its onset; and the re-action was not only powerful, but gave rise to a disease of excitement, and as such noted and entered in the returns. In many of the cases the earlier symptoms were so slight, and the re-action so apparent, that the primary diseased movements were scarcely attended to, and the disease entered or marked by the excitement under the head of fever. This bears strong confirmation, from the circumstance, that it was really difficult, in many instances, to say what disease the malady was to be designated; and the like circumstances has been noted in Europe, where it has been questioned by some whether or not it was altogether a febrile affection. Here it was very common for persons to present themselves with many, if not most, of the precursory symptoms of Cholera, as faintness, nausea, griping or colicky pains in the belly, anxious, distressed, pale countenance, thirst, heat at præcordia, feeble pulse, heavy suffused or peculiar eye, who have merely had a scruple of calomel, with two grains of opium, covered warmly in bed, when they have fallen asleep, and awoke quite well; got a dose of castor oil, and have gone to their duties, without having been admitted on the Hospital books, or enumerated amongst the sick. Such a train of phenomena, with the like results, could be the precursor of no other disease than cholera, since they were the symptoms, which usually ushered in that malady, and are indeed rare in the diseases of the country, and prevailed only, whilst cholera itself was prevalent; and therefore, it is to be presumed, characteristic, of the epidemic which we are recording. Some of these cases, however, in passing, away, brought on, as already noted, re-action and fever; without the vomiting, purging sinkings, cramps, &c. when it was designated fever. Later again, that is in May, the disposition of fever was less marked, and the dysenteric symptoms were the most frequent, as its sequæla, and ultimately became the prevalent affection."

Regarding the more violent forms of the disease, Dr. Mouat observes as follows.

"The worst cases are those which are characterised by sinking; hence in the most fatal attacks and destructive invasions, there is often little or no vomiting or purging, or scarcely any spasms;—in fact, where nature makes not the least effort to relieve herself. Again, where this affection is not so formidable, we have more disturbance in the system, or what may be styled more resistance to the disease, as evinced by the violence of the vomiting, the purging, the pain, the cramps, &c.; so that it has appeared to us, that in some cases, the force of the disease has at once annihilated all the powers of life, and death has been the almost immediate result. In others again where it has not been so violent, the efforts, of nature have made an exertion to get rid of the malady, and the consequence has been the disturbance which we have so often witnessed; sometimes in such cases, though the struggle be protracted, yet the injury, whatever it is, is such as to kill, and no effect of art or nature, can or does, avert the patient's doom. Lastly, some attacks are so slight, or the frame so indisposed to its invasion, or where the disease has not had time to destroy the balance, on which life depends, the individual resists its force, or at once rallies, or shakes it off perhaps with little or no medical aid, or by the most contrary and contradictory practice."

On the subject of disection, Dr. Mouat makes the following observation.

"The principal diseased appearances are vascularity, and congestions of dark blood, in the cerebral, thoracic, and abdominal cavities, with marks at times of inflammation in the stomach or intestimes."

Touching the treatment our author states that,—

"In the first stage, at the very beginning, it was usual to put the patient into bed, cover him warmly, to restore or retain the animal heat, of so much consequence in the subsequent treatment of this disease, and to give him a scruple of calomel and two grains of opium. This alone, in the slighter cases, at the very commencement, has cured the patient. When the disease is more advanced, or the pain at the epigastrium is increased on pressure, and the pulse will admit of it, from 20 to 40 ounces of blood is taken, or 18 to 30 leeches applied to the epigastrium, with hot fomentations or semicupium, and a large dose of calomel and opium is exhibited, and smaller ones every hour or every two hour; or as often as they are rejected by the stomach, with occasional doses of magnesia. If purging has supervened, anodyne enemas, and very small quantities of any acid drink, to allay the thrist. Should these fail, or the disease advance into, or what is more common, the malady have arrived at, the *second stage*, we are obliged either to stimulate or deplete, as the symptoms appear to indicate. This is really difficult to decide. If the pulse is soft, feeble, and slow; the surface cool and relaxed; the countenance anxious, pale, and distressed; the eye sunk; the pupils dilated, &c. in addition to calomel and opium, we generally gave some brandy or wine, or other stimulants, and only bled or applied leeches as soon as re-action took place. If the pulse, though small, was hard or sharp, the voice good, the pain or griping or retching violent; the skin dry, the temperature good, and the spasms, if any, strong, we bled or applied leeches. In the whole progress of the disease, the object was to rouse, or restore, the vital energies, to restrain or moderate excited action, and to relieve urgent symptoms. Those who have seen much of the disease must be aware how uncertain all this is—how difficult even at the bedsides of the patient, and how totally vain to transcribe it into a report, much more, to explain the effects of the remedies. In some cases, every treatment alike appear-

ing to benefit, in others to fail, or to do possitive harm. That which at one time rouses, at another sinks ; that which in one instance relieves, in another appears to do harm, and even experience often seems but to mislead.'

We are not at all surprised at the conclusion to which Dr. Mouat arrives ; for never has been shewn a more lamentable want of consistency than in the foregoing parts of Dr. Mouat's description of his treatment. We have never seen a real acute case of cholera without its going down into the collapse stage. If we find a patient with a frozen limb, have science and experience taught us to take the limb to a burning fire? The position is precisely the same when we administer brandy in the collapse stage of the cholera? Collapse is the consequence of over excitement, and nature will herself, as we have seen in innumerable instances, come round to reaction, if we but assist her at the commencement of the disease in allaying the inordinate action in the stomach and bowels which, as Dr. Mouat's post mortem examination fully proved, were in a state of inflammation which he would aggravate by the injudicious administration of such a compound as brandy.

The cases which came under Dr. Stewart's care at Howrah about the middle of June, were of the continued kind, which, in his opinion, were distinctly referrible to some error in diet, exposure, or cold coming on suddenly with chilness pains in the back, loins, and knees, followed by nausea, headache, hot skin, thirst &c.

"In five cases, the head seemed to suffer most : one of these was characterised by a pulse, which for three days did not rise to 60, there was no flushing of the face, redness of the eyes, head-ach, nor hot-skin, but a great unwillingness to speak, a slowness of answering, and apparently of comprehending questions : intolerance of light and obstinate costiveness. In a second, the pulse continued at 80 : there was little or no heat of body, a clean tongue, and not much thrist ; the cerebral symptoms were drowsiness, continued pain in the back of the head, and intolerance of light and noise. Of the other cases of continued fever the principal determination seemed to be to the mucous membrane of the bowels, and to the liver ; the secretions of these organs being irregular, and of a highly irritating sort, causing perpetual nausea and fatiguing retching : the pulse was generally quick and hard : the heat of the body pungent, the tongue dry and pointed, of the colour of an old brick, with red edges, and not becoming furred with any brown or thick mucous, until the third day, when freer secretion had re-commenced. In all these cases, venesection was freely and repeatedly employed at the commencement, followed by scruple doses of calomel immediately, and these by doses, night and morning, of grs. 10 of calomel, and grs. 15 of colocynth, with a purge of compound powder of jalap at noon : leeches and blisters were useful towards the end of the case ; the tepid bath in cases of much gastric irritation was found very beneficial, and the cold dash on the head had a most soothing influence. The most remarkable circumstance, at that time, which fell under my notice, was the proclivity to cholera ; one lady was attacked with it at two o'clock in the morning after taking the night before, of her own advice, five grains of calomel and four of James' powder ; and another seemed to threaten cholera from the use of Infus. Sennæ, and Infus. Rhei, with a little Epsom salts. I therefore in almost every case combined opium gr. i. with each dose of calomel and colocynth, and never found it to interfere at all with their operation ; on the contrary, the soothing effect of the opium on the irritable fibre was such, as will induce me in future, to make a freer use of that powerful drug, than I have been accustomed to do. None of these cases could bear quinine during convalescence. The minutest quantity of it given in any way produced deafness, noises in the ears, and tightness across the eyes."

We need not here recapitulate our opinion on the subject of treatment; but, with reference to the effects of quinine, to which Dr. Stewart alludes, we should add, that, during the prevalence of the epidemic fever in 1833, out of several hundred patients we treated not one to whom we administered large doses of quinine, escaped the deafness, noises in the ears, and tightness across the eyes. These effects we regarded as of no consequence, and therefore we were not deterved in the free use of that invaluable remedy. No ill consequence arose in any case, and what is still more remarkable, in most cases, the disagreeable effects we have mentioned diminished even during the continuance of its use.

Dr. Stewart observes that, about the beginning of July several cases of intermittent presented themselves.

"Of these four were bled at the commencement of the cold fit ; in one or two successive paroxysm. I did not find this boasted remedy of any use, either in shortening the paroxysm or preventing its return, and attributed the recovery of all to quinine."

From the 10th of June onwards new cases of fever daily occurred; but without any peculiarity. For four or five days inward heat, loss of appetite, flushings, and chills were the predominent symptoms. Gentle aperients were given, and the return of the paroxysm was effectually prevented by large doses of quinine.

"In none of these cases, some of which were very severe, and followed by long and great depression, did any such symptoms present themselves, previous to the first well-marked rigor, as seemed to call for depletion; but during the hot fit in all of them, I am persuaded that the liver was relieved greatly, and a more perfect remission obtained from the employment of eight or ten leeches, the bites of which were allowed, by the help of a poultice, to bleed freely after their removal. The previous free purgation of colocynth and calomel, had likewise left the bowels so clear, and as far as their function was concerned, so quiescent, that full doses of Quinine, i. e. two or three grains in solution with Acid. Sulph. Dil. were borne every hour with perfect safety, the moment the fever-paroxysm had subsided; although at this time the liver was pouring out ounces of perfectly black bile, which passed along the bowels, and was discharged for several successive days, at this stage of the fever, perfectly fluid and clear, without a shred of mucus or an atom of fæces."

In perusing the foregoing review it will be perceived that we have endeavoured to place in relief the most important passages from the three papers we have examined, and adopted a different arrangement of the subject from that which we found in these articles. In desertations on Medical subjects, on which the treatment of diseases—nay the very life of the patient is dependent, simplicity and perspicuity should be the primary consideration. We therefore regret to find in Mr. Twining's and Dr. Mouat's writings a great disregard to method. Dr. Mouat is likewise verbose, and as on all such occasions replete with tautology. To notice but one instance,—in describing the symptoms of the epidemic catarrh we were able to condense into a few lines what had been lengthened out to three or four pages. In other respects, particularly for the zeal he displays in scientific research, this Physician is entitled to great respect. Great as our admiration has been for what we have recently seen from the pen of Dr. Stewart, we are sorry we cannot extend to him that measure of praise for his article just reviewed which we can to his other works. The errors we have ascribed to his coleagues are partly his own, which neither friendship nor esteem will allow us to conceal at the sacrifice of public duty. There can however be no doubt that this practitioner is in time likely to be one of the most shining characters in the capital of India.

THE INDIA JOURNAL
OF
MEDICAL AND PHYSICAL SCIENCE.
Calcutta: February 1, 1836.

MEDICAL AND PHYSICAL SOCIETY:—SPECULATIONS OF SOME OF ITS MEMBERS RESIDENT IN CALCUTTA.

Our proposition to introduce into the meetings of the Medical and Physical Society a duly qualified reporter was so warmly opposed by some of its members, that we have been prepared to meet obstacles in the way of our unquestionable right to report the proceedings personally. How far the discussions at the last meeting may thwart our views and interfere with the circulation of our journal, we shall leave to the members of the society to judge. So far as we are concerned we deem it our duty to lay before them a plain statement of facts as regards the institution of our periodical and the nature of the Medical and Physical Society. Impressed with the conviction that a monthly Journal of Medical literature was a great desideratum in this country, we, on our becoming a resident member of the society at the Presidency, announced our intention of publishing such a periodical, and solicited permission to introduce a reporter to take down the discussions on the papers read at the meetings of the society. Instead of being received with readiness, as we had anticipated, we were astonished to find that our proposition was rejected by a large majority. In conjunction with our talented friend and predecessor Mr. Grant, we however pursued our plan, and had actually put to press a sheet of our intended journal,

when to our surprize, a proposition was brought forward by one of the members of the society—that the society publish a quarterly periodical. For individuals like Mr. Grant or ourselves to contend against a society already rich in its resources, appeared to us the height of folly.

We must here direct the particular attention of the members of the society to the period at which this proposition was brought forward. The society had then existed for nearly ten years. If a quarterly journal was a desideratum, why had not one been got up long before? Why was the proposition to establish it made just when the desideratum had been supplied by the undertaking of Mr. Grant and ourselves, who had actually engaged to publish a journal of the kind?

But to proceed;—the then President of the Society, Mr. Horace Wilson was obliged to quit Calcutta, and as he could not be present at the meeting when the proposition was to be discussed and balotted for, he furnished a minute to be read as his opinion, of which the following is an abstract.

"Regarding the expediency of the Society attempting to publish a Medical Journal, which he considers unadvisable as tending to divert their attention and resources from its principal objects, which should be the advancement of professional knowledge and maintaining the credit of the Society as promoted by the meetings and by the regular publication of the Transactions. He further states that besides the great difficulty of selecting articles which should give satisfaction to the majority of non resident members, and the object of continuing monthly a publication of sufficient interest to give general satisfaction, there is reason to fear, the attempt to publish a journal might destroy that harmony hitherto subsisting between the resident and non resident members of the society. The expence is another and a positive objection, as a journal of any extent could not be printed without calling on the members for an addition to their subscriptions—a call which in the present state of medical prospects, the society could not consent to propose.

The proposal—that the Society should undertake the publication of a Quarterly Medical Journal, was then ballotted for and negatived."

Notwithstanding this decision on the part of the meeting in July 1832, a monthly Journal of Selections was immediately published, which, not only detered us from publishing our periodical, but was an infringment of rule 5 page 10 of the Society's own regulations. It is rather fortunate for the support of our argument that Mr. Wilson was not present at the meeting, or we should not have had his important minute recorded in the books of the society.

Impelled by a noble zeal and public spirited independence, Mr. Grant, on being appointed to the situation of Apothecary General, in conjunction with Mr. Pearson, published the *India Journal of Medical Science* at their own risk. Some of the members of the Medical and Physical Society made very great exertions to oppose the daring volunteers in this scientific enterprize, and one of them, we are informed, confident of success, went even so far as to lay bets that at the end of the year the Journal would not count three subscribers. Apparently to encompass this object a quarterly periodical was again proposed by some of the members of the Society, on which it may be fresh in the recollection of many, that we ourselves, then unconnected with this Journal, wrote in the daily papers under the signature of *A Member of the M. P. S.* But to be brief the proceedings of the meetings at Calcutta against the undertaking of our predecessors was submitted for the vote of the Society. We are not aware of the result; but this we know that the quarterly never went beyond one number, which was called the first part of Vol. first, and their Monthly Journal of Selections also ceased. Whilst this was the result of their undertakings, the *India Journal of Medical Science*, at the end of the year, instead of three subscribers as had been foretold, could boast of no less than two hundred. Such was the triumph of right over might. After this all went on smoothly enough, until we had the honor of ascending the editorial chair, and of bringing forward a second time our proposition to introduce a reporter. The result of our attempt is already well known to the readers of this Journal.

The present we must say is a very inauspicious juncture for our opponents to think of setting up another monthly journal, and of engaging the services of Mr. Bignell as the reporter for the Society, which Mr. Huchinson says he would do if the measure were

thought conducive to the benefit of the institution. Unfortunately for these friends to improvement, their proposition has been made just when we had increased the size of our Journal ; which is also so soon after their strennous opposition to publicity, as to betray a degree of inconsistency which we could scarcely have expected in them ! But suppose their proposition were carried, what is likely to be the result ? We have made our calculations, and are satisfied that, notwithstanding their combined efforts, it will not be in their power to put us down. The only injury it will do to us will be to put some obstacle to the increasing of the size of our Journal and to its improvement which we have progressively made as the number of our subscribers increased. This Journal commenced by giving only thirty two pages at the present charge ; it now consists of fifty two pages besides other improvements as regards plates, &c., and it is our intention to proceed on in the same manner as our means admit. But it seems we are to be stopped in our career by a few members of this Society, which we sincerely respect, and shall to the utmost of our power support ; we were one of its first members, and have never, and what is more we never shall cease to promote its interests : but we would be the last to subscribe to any proposition by which the society would appear to stand in the way of the success of periodical medical literature. The few among the resident, members, obviously opposed to our undertaking, do not constitute the Society,—they cannot appropriate its funds to other than the objects recognized by its fundamental rules. The whole of the members, whether resident in Calcutta or not, must certainly have a voice in the management of their own property, and be consulted regarding its disposal. At the ensuing meeting of the society we will therefore endeavour to obtain this object, and then we have nothing to fear : having had satisfactory proof that our Mofussil brethren will support our humble endeavours. This mighty body, having destroyed us, would it is likely relapse into that apathy displayed ten years previous to our proposition to institute a journal.

But at this moment it appears to us necessary that the members of the Medical and Physical Society be reminded of the objects for which the institution was set on foot and the manner in which their funds have hitherto been disposed of by the managing committee.

As to the nature of the institution, the Medical and Physical Society was formed after that of the Medical and Chirurgical Society in London.

The object of such an institution are twofold, first—to collect original papers relating to discoveries in Medicine and Surgery, and in the branches connected with them, as researches in Anatomy, Physiology, Botany, Chemistry, &c. &c. ; which papers are presented, read, and discussed at regular appointed meetings, and afterwards published, and entitled the Transactions of the Society.

The other object is the formation of a select and extensive medical library for the use of its members. In the prosecution of their object to promote medical and physical science, a museum for geology and natural history, specimens in morbid anatomy, and anatomical and surgical preparations generally are of the utmost importance, as subjects for the medical practitioner's reference, and would also be a further inducement for gentlemen in and out of the service to become members.

Indeed, as the funds admit of such advancement, philosophical and astronomical instruments, and a laboratory for experimental chemistry and in other departments of philosophy, would be desirable, because such works are in unison with the nature and objects of such an institution.

As a society, she onght to be that grand bason, into which, by being ever open for contributions, the streams of medical literature and science ought to flow from every quarter: she should be an attracting power to all, but repel none.

She should not suppose periodical medical literature as injurious to her own dignity and honor ; on the contrary, it will promote her interests by the diffusion of medical science. Brande's Philosophical Journal has never interfered with or injured the Transactions of the Royal Society, neither does Princep's Journal that of the Asiatic Society.

Now if there should remain any surplus funds after the legitimate objects of the

society have been obtained, considering the miserable pay allowed to the medical servants of the state, and the consequent straitness of their means, which has induced such numbers to withdraw their names from the list of subscribers to the society and prevented more from joining it, it is surely the duty of the managing committee to lessen the amount of subscription. But this has never formed the object of their consideration—no, not even in the worst of times, when no commutation was given for the loss of medical allowance, and when half batta was introduced! What will our readers say when we tell them that some years ago, our inconsiderate committee allowed even the talented Mr. Grant to secede from the society on the plea of want of means to subscribe. Of course when things come to this pass one might have reasonably supposed that the funds had been carefully husbanded, but so far from it, we do not hesitate to say they were shamefully wasted.

While the resources of the society amounted annually to an average of 7,000 rupees, the small outlay of only 400 rupees was made (see page 6 of circular for 4th January, 1834,) for the usual annual supply of medical works and periodicals from London, whilst the extravagant sum of nearly 4000 rupees, was expended in the following manner: on matters so comparatively trifling.

An Edition of Medical Society's Laws and Regulations, Circular Letters, Catalogue of Library, Notices of Meetings, Bills, Receipts, and 12 months' circulars, to 31st December 1833,.....	1,507	5
Map and Print for 130 copies of vol. IV. in October, 1832,.....	87	13
Publishers' Advertisements, Freight and charges of sending to England for sale 100 copies vol. VI. Transactions, and 30 copies Taleef Shereef.....	83	6
Establishment for 12 months, for 31st December, 1833,.....	1,452	0
Packing 277 vols. of Transactions for transmission to members,.....	69	4
Binding Periodicals and other works during the year,.....	61	8
Mr. J. B. Tassin's Bill, for Lith: plates,.....	196	0
Sheriff and Co., case for specimens of Materia Medica, and Bookshelves,.....	208	0
Stationary including paper for writing and envelopes &c.....	75	0
Contingent charges,.....	35	0
Total,.....	3,775	4

We must now bring to a close this exposition of the mismanagement of the funds raised from the hardly earned pittance of the members, and reserve for another period the duty we have to perform in shewing the expenditure of the funds up to the present time. But we cannot help mentioning that the state of the funds has been such that the committee of management have been obliged to borrow the rooms of the Asiatic Society, and when asked to pay a portion of the rent for the apartment occupied by the Medical and Physical Society's Library, were forced to refuse the request on the plea of want of means, though the accommodation appeared to have been reluctantly allowed. It should be kept in mind that it is in contemplation to transfer part of the College Library to the Asiatic Society, which is also increasing its museum and will shortly, it is to be feared, be compelled to request the Medical and Physical Society to vacate the apartments at present occupied by it. Now we put it to the members whether it was not the duty of the managing committee so to economize the funds as to be prepared to secure suitable accommodations for the library and meetings, which they must be aware will be eventually required. It must however be stated that recently the managing committee have ceased to take in all the standard works, and have confined themselves to but very few periodicals for which the resident members pay four rupees per mensem.

Should the managing committee determine upon publishing a journal of Selections, they would place before the public much the same matter as we have in our pages; for both their and our journal must be occupied with

gleanings from the same periodicals. If they also wished to engage the services of that talented and first-rate reporter Mr. Bignell, their expense could not fall short of 3,000 rupees per year. The following remark of Mr. Horace Wilson plainly shows that if the committee involve themselves in these expenses, it will be difficult for the society to continue without serious embarrassment. "A Journal of any extent", says Mr. Wilson "could not be maintained without calling on the members for an addition to their subscriptions—a call which in the present state of medical prospects, the society could not consent to propose ;" and which if the managing committee did propose, even the members of the Society would never consent to pay.

VIEWS IN INDIA.

By the late Col. George.

Our readers will no doubt be glad to learn that we have been favoured with the unpublished original drawings of views in India, by the late Col. George. These drawings are well known by that talented officer's friends to be executed in a masterly manner. And we having the means at our command, it is our intention to annex one of them, together with a topographical account of the place they represent, to each of our numbers. We commence this month with Chittagong.

As the art of lithography is but in its infancy in India, the supporters of our Journal will, it is hoped, make every allowance for the imperfections that may appear in this department of our pictorial embellishments: as we proceed on improvement will no doubt be evinced. In justice to Mr. Black, one of the principal lithographers in Calcutta, we must take this opportunity to state that, with very limited resources as to materials and workmen, he has, by tact in his profession, and persevering industry, so creditable to himself, overcome the greatest difficulties, and brought the art to a tolerable degree of perfection. The sketches alluded to will be lithographed by him.

BRITISH HUMANITY TOWARDS THE NATIVE SICK POOR.

In a preceding page will be found a letter on providing Hospitals for the poor. The hand which penned that letter is now mouldering in the grave. *Philanthropos* wrote his affecting epistle in his dying moments. Himself a sufferer from a lingering disease, he was well fitted to sympathize with the destitute sick who were denied those comforts and that tender compassion and care which are so lavishly bestowed on the affluent.

How delighted we should be to hear that our earnest appeals for the sick poor in India to the rulers of the land have been heard, that the complaints of the indigent have reached the ears of power, and that the hand of the philanthropic reformer will be successful in establishing hospitals throughout India for the poor and indigent. Facts make it undeniable that people under our rule do die for want of food, but that they also die for the want of care in time of lingering sickness is truly dreadful. Were scenes like these to occur ever so rarely, it would be necessary to awaken the whole nation to a sense of the enormous imperfections in this part of the system of government, and the press ought never to cease its loud complaints until some effectual remedy were found out and applied. The account of the multitude, however, who do die, from this vast population for want of food, and in the pains and agonies of sickness from neglect, are to be found recorded in the annals of heaven alone; for on this selfish earth there is none to record the sufferings and deaths of the miserable inhabitants of the hovels and cells of wretchedness. It is nevertheless the duty of every country to render an account of its public acts, and explain why the powerful and the influential portion of the people have screened the hideous picture from the public eye, when it is evident that the true representation of the present state of the country could move even the coldest hearts to pity and commisseration. It has been observed by a distinguished journalist that we call ourselves a humane nation. It is, indeed, delightful to hear our

own praises. But it should not be forgotten that writers who flatter nations, like those who flatter princes, chose the shortest road to favor and preferment; and this is the reason why there are so many who hold up to our self-admiring eyes the mirror which shews all in perfection, and so very few who allow us even a glance of the mirror which discovers to us our latent deformities in their true colours. As for our part, we freely confess we never hear the praises of the English without picturing to our imagination the numerous wretches who are wasting away under the slow torture of famine. The sleek and glossy figure of English apathy, reposing on beds of down in the very sight of wretchedness, continually rise before our imagination in strange and grotesque contrast with the ghastly forms of our emaciated fellow creatures, writhing in all the pains of hunger and disease. Can we coolly and without a pang resign them to their fate, and bar our doors against the supplications of suffering humanity? Even the most savage nations would shudder at the reality of the picture we have described; and yet in a civilized country—under an enlightened Government, and in the midst of a nation styled humane, such scenes are frequent—and continue so without any effectual means being adopted to remedy the crying evil!

THE COMMITTEE FOR ENQUIRING INTO THE STATE OF *INDIAN JAILS.*

We observe a committee has been formed, the members of which are of the first rank and talents in this country, for the purpose of enquiring into the state of the Indian Jails, and of preparing an improved plan of prison discipline; but if no part of that committee is to make a circuit over India and themselves closely investigate into every particular connected with the management of Jails, we fear the important object of its formation will be frustrated. There is a portion in Howard's work on the police of prisons which deserves the notice of its members. A coroner assured that philanthropist that the jails were never visited, and that the fault was in the Justices, Sheriffs, and Magistrates, who were the legal inspectors of prisons. I have often, says Howard, inquired of jailors whether the Sheriffs, Justices, or Town Magistrates inspected their jails? Many of the oldest have answered, "none of these gentlemen even looked into the dungeons, or even the wards of the jail," others have said, "These gentlemen think that if they come into the jail, they should soon be in their graves?" Again others that, "the Justices think the inside of the jailor's house too close for them; they satisfy themselves with viewing the outside."

We know it to be a fact that many die in the jails in consequence of neglect in the ventilation of the wards and cells, by congregating into small apartments numbers too large to admit of the atmosphere in those apartments continuing wholesome and fit for being inhaled in the lungs for any length of time, and by errors in the diet and drink of the prisoners, all which proper supervision and care might easily remedy; and save from an untimely death the numerous victims who fall sacrifice to these causes. These are actual aggravations of the punishment awarded to the unfortunate inmates of the jails, but these aggravations owe their origin not to the regular and lawful process of justice, but to indifference and neglect on the part of those whose duty it is to see these evils remedied. A heavy responsibility is therefore laid on the members of the committee of enquiry: for, they are called upon, by these circumstances, to set aside all feeling of delicacy towards the functionaries connected with the management of the jails, to scrutinize into the practical details of the management of these institutions, and to make a faithful and correct report of what they observe.

MORTALITY OF THE CENTRAL PRISONS IN FRANCE.

The mortality in some of these establishments is really frightful. At the central prison of Melun, the mortality from 1810 to 1819 has been 35 in 100—from 1819 to 1829 one in seven—in 1833 only 1 in 13⅓—in the year 1833 the population of the nineteen central prisons was 15,826. Of these died one male in 12⅝ and one female in 18¼. On average the deaths may be accounted as one in fourteen. In America the deaths do not amount to more than one in 33, or, by other accounts, in 49.—*Lancet, August* 1, 1835.

THE ANATOMY AND PHYSIOLOGY OF THE LIVER.

By Francis Kiernan, Esq.

Member of the Royal College of Surgeons, late Teacher of Anatomy.

(Condensed from the Philosophical Transactions.)

(*Continued from page* 25.)

Of the Vaginal Portion of Glisson's Capsule, and of its Vessels.—A branch of each vessel, contained in a portal canal, makes its exit from the canal at each interlobular space on its surface. The lobules being small bodies, the interlobular spaces are necessarily numerous, and close together. The hepatic duct and artery running together on one side of the canal, or winding spirally within it, are in apposition with but a very limited number of spaces; the two vessels are, however, brought into apposition with all the spaces by means of plexuses, from which the interlobular branches arise. The portal vein also forms a plexus, being separated from the spaces by the duct and artery and their plexuses. The branches forming these plexuses are the first which arise from the duct, artery, and vein; they form a vascular sheath around these vessels and may be called their vaginal branches; they ramify in a loose and fine cellular tissue, which, with them, constitute, the vaginal portion of Glisson's capsule. This cellular tissue is continuous with that surrounding the vessels in the right edge of the lesser omentum, and with that of the proper capsule of Laennec. The internal surface of the cellulo-vascular sheath is in contact with the three principal vessels, and is composed of the largest branches arising from them. Its external surface is in contact with the parietes of the canal, and is composed of the smallest branches; these branches form a reticulated plexus, from which the interlobular branches shoot out, and entering every interlobular space, ramify between the lobules. In the smaller canals, the fissures and spaces being less numerous, and the plexuses formed by the duct and artery being consequently less complicated, a great portion of the portal vein is in contact with the parietes of the canal. In these canals many of the interlobular veins arise immediately from the trunks, vaginal branches being given off, and forming a plexus, on that side only of the canal occupied by the duct and artery. In these canals we find the capsule, the essential part of which is the plexus, only on that side which is occupied by the duct and artery, the vein being in contact on the opposite side with the parietes of the canal. In the larger canals, in which the lobules and spaces are more numerous, and the plexuses necessarily more complicated, the sheath completely surrounds the three vessels. These two modes of arrangement of the capsule may be ascertained by making transverse sections of canals of different calibre. In a small canal in which the capsule is found only on that side occupied by the duct and artery, the portal vein should be laid open, and its internal surface examined. The fissures and lobules will be seen through the transparent coats of the vein on that side on which there is no capsule, and on the internal surface of the vein numerous minute orifices will be observed, corresponding exactly to the interlobular spaces. These orifices are the mouths of interlobular veins, which enter the spaces without contributing to the formation of the plexus. (Fig. 6 *b*, p. 332.) A few larger orifices, not corresponding to the spaces, will also be seen: these are the mouths of the vaginal branches, which divide in the canal into two, three, or more interlobular branches, and thus contribute partially to form the plexus. On that side of the vein which is in contact with the artery and duct, and separated by them from the spaces, the orifices are larger and less numerous; these are the mouths of vaginal branches, which, ramifying in the canal, terminate in interlobular branches, which enter these spaces covered by the duct and artery. (Fig. 6 *c*.)

From the above description it is evident that Glisson's capsule is a cellulo-vascular membrane, composed of the vaginal branches of the duct, vein, and artery, ramifying in a layer of cellular tissue. Its existence around the three vessels in the larger canals, in which the vaginal plexus, is most complicated; its existence on that side only of the smaller canals occupied by the duct and artery, and its almost total absence on the opposite side, sufficiently prove that by its means the three vessels are brought into apposition with all the interlobular spaces, on the surfaces of the canals. The vaginal vessels are best seen by making longitudinal sections of canals, and dissecting out the three large vessels after having injected them. The mouths of the interlobular branches arising from the smaller portal veins may be shown by opening a vessel, and removing the injection carefully from the trunk, leaving it in the branches. The internal surfaces of the ducts and arteries exhibit no orifices of interlobular branches, these branches always arising from the plexus which each duct and artery, however small, forms in the canal in which it is contained. The portal vein, like other vessels, occasionally varies in the manner in which it gives off its branches; thus, even in the smallest canals, it frequently happens that the three vessels are surrounded by the capsule. In this case the vein gives off vaginal branches only, and no interlobular branches, all the latter arising from the former.

The first vaginal branches of the ducts arise at nearly right angles with the trunks; they run in a transverse direction within the inner surface of the canal, and terminate in branches which correspond to, and lie on, the fissures. Each transverse branch gives off one or two branches which ramify in the direction of the trunk, and one or two recurrent branches. All these branches run in the direction of the fissures, forming angles at the spaces over which they pass. At each angle a smaller branch is given off, which runs in a fissure leading from the space over

which the angle in vessels is formed. Thus, if the vessels be well injected, all the fissures and spaces will be covered by small ducts, which form a network of vessels corresponding in form to the fissures on which they lie. The transverse branches, and those which arise immediately from them, do not anastomose with each other, but the smaller branches sometimes appear to do so; I cannot, however, from dissection, affirm that they do, for those which appear to anastomose are exceedingly small vessels, and meet each other at the spaces; hence it is difficult to ascertain whether they really anastomose, or enter the space together without anastomosing. From the vaginal ducts spread over the surface of the canal, lobular and interlobular ducts arise; the former enter the lobules on the parietes of the canals; the latter leave the canals at the spaces to ramify between the lobules, which they finally enter. The vaginal ducts are sometimes very tortuous in their course.

The coats of the ducts are highly vascular; the rugæ on their internal surface, and those on the internal surface of the gall bladder, are formed by the ramifications of the larger blood-vessels, arteries as well as veins, covered by the mucous membrane. This membrane is studded with vascular papillæ, which become remarkably developed in the diseased ducts so frequently found in sheep and oxen. The smaller ducts are furnished with papillæ only, and to the rupture of the delicate vessels forming these papillæ is to be attributed the facility with which Soemmerring and other anatomists injected the ducts from the arteries and veins, and not to any direct communication between the vessels and the ducts. The ducts cannot be injected in a direct manner from the hepatic vein, no branches of this vein ramifying in their coats; fluid may indeed be made to pass from this vein into the ducts, but only through the medium of those branches of the portal vein which ramify in the coats of the ducts. The ducts are injected from the portal vein and from the hepatic artery in the same manner as the fœtal intestine is frequently filled with injection from the umbilical vein or aorta, viz: by the rupture of the minute vessels of the mucous membrane. Hence it is evident that the ducts, so far as they have been yet traced, are abundantly supplied with artereal blood; that this blood returns into the branches of the portal, and not into those of the hepatic veins; and that the hepatic portal vein has branches of origin in the coats of the excreting ducts from the terminations of the hepatic artery, as the abdominal portal vein arises in the coats of the intestines, in the spleen and pancreas from the arteries of these organs.

From their extreme vascularity alone, we might infer that the ducts serve another purpose beside that of conveyance of bile; and all anatomists are acquainted with the muciparous follicles of the lining membrane of their larger branches: in the smaller branches, the existence of the follicles has been denied. In the former, they are irregularly distributed over the surface; in the latter, they are closely arranged in two longitudinal lines, occupying opposite sides of the ducts; and, arranged in this manner, they will be found the smallest duct that can be examined. Mappes confounded the follicles with the orifices of vessels. Their number renders it probable that the fluid furnished by them serves another purpose beside that of lubricating the surfaces of the ducts. Some estimate of the quantity of this fluid may be formed by examining the ducts, after having injected them with alcohol. These follicles are probably the secreting organs of all the mucous found in the bile.

The vaginal ducts are accompanied by the vaginal arteries; the latter, however, are more or less tortuous in their course, the former generally proceeding in the shortest direction to their destination. The vaginal arteries anastomose freely with each other, but their ramifications do not, like those of the ducts, correspond exactly to the fissures. If the left artery be injected in the transverse fissure, the injection will return by the right artery: this communication takes place by means of vaginal branches which the left artery gives off in the fissure, and which anastomose with similar branches of the right artery.

The vaginal branches of the vein anastomose with each other; they form a much more complicated plexus in the human liver than in the liver of most animals, and on this account the cellular tissue of Glisson's capsule is more abundant in the former, and greater difficulty is experienced in examining the plexuses formed by the ducts and arteries. In the sheep, portal veins of considerable size resemble the smaller portal veins in the human subject, vaginal branches arising from them on that side only of the canal occupied by the duct and artery, and interlobular branches on the other side. On this side, therefore, we find the cellular tissue in small quantity, no venous plexus being formed, and the injected vaginal ducts and arteries may be seen without dissection through the transparent coats of the vein.

The nerves and deep-seated absorbents ramify in the portal canals; I have not been able to trace them into the interlobular fissures. The absorbents may be always injected from the duct, and the bile is frequently propelled into the former vessels by injecing the latter. Mascagni found that injection thrown into the ducts returned colourless by the absorbents. I have frequently made the same observation, but I have as frequently found the injection in the absorbents of the same colour as that thrown into the duct, and have frequently filled all the absorbents of the right edge of the lesser omentum with red size from the duct. No absorbents accompany the hepatic veins, and it is not probable that any of the absorbents of the liver, terminate in the branches of the portal vein, the fluids in these two systems of vessels proceeding in different directions. The superficial absorbents ramify in the proper capsule. After injecting these vessels, the peritoneal coat may be removed without injuring them; or the peritoneal coat may be first removed, and the absorbents afterwards injected; and some few may be injected in the proper capsule after the separate removal of both. This can be done in the human subject and in the

larger animals only, the proper capsule being of a much more delicate structure, or probably not existing, in the smaller animals, in which the liver appears to have no superficial absorbents. Injection sometimes passes from the arteries and portal veins into the absorbents.

Of the Interlobular Portion of Glisson's Capsule, and of its Vessels.—As the interlobular ducts, veins, and arteries, arise from the vaginal ducts, veins and arteries, so the interlobular cellular tissue is continuous with the vaginal cellular tissue, the vessels and cellular tissue together constituting of the interlobular portion of Glisson's capsules, which occupies the fissures, and forms the capsules of the lobules. The interlobular vessels, at their origin from the vaginal vessels, enter the paces; in the spaces, therefore, we find the largest branches; these divide into smaller branches, which ramify in the fissures.

If the left hepatic duct be injected with size or mercury, the injection will return by the right duct, without extravasation and without passing into other vessels, and the injection will be found in the interlobular and vaginal ducts as well as in the trunks. This communication between the two ducts does not take place, like that which exists between the right and left arteries, through the medium of the vaginal branches of the transverse fissure, the injection being found in interlobular branches arising from the right duct. From this experiment, which I have frequently repeated with the same result, it appears that the right and left duct anastomose with each other through the medium of the interlobular ducts. This experiment does not always succeed, which probably arises from the quantity of bile contained in the ducts.

The interlobular branches of the portal vein cover, with their ramifications, the whole external surfaces of the lobules, with the exception of the bases of these bodies, and of those extremities of the superficial lobules which appear on the surfaces of the liver. The freest communications take place between these vessels; when successfully injected, which can be done with size only, the interlobular fissures in which they are contained, whether examined on the surface of the liver, or on the surface of a section, are coloured with the injection. Mercury thrown into a large branch of the portal vein returns by other large branches. This communication takes place through the medium of the interlobular branches, for though the vaginal branches in the same canal anastomose freely with each other, yet those of one canal communicate with those of another through the medium of the intervening interlobular branches alone. The interlobular veins also form communications between the lobular veins of a lobule, and those of the contiguous lobules. Hence it appears, contrary to the assertions of Bichat and Mappes, that the freest anastomoses exist between all the branches of the portal vein, and that the interlobular branches form the medium of communication.

When the portal vein is imperfectly injected, and the venous circles, formed by its interlobular branches around the lobules, are not brought into view, these branches are seen in the spaces, and three or four smaller branches are seen shooting into the fissures communicating with the spaces. These are the stellated vessels of anatomists. When the vessels are well injected, the stellæ are all continuons with each other, and the venous circles are formed; the stellated appearance, therefore, arises from the incomplete injection of the vessels. If the liver do not contain much blood, stellæ may be always produced on its surfaces by pressure.

No anastomoses can be shown to exist between the interlobular arteries; these vessels, even when most successfully injected, appearing like points, lines, and stellæ, in the fissures and spaces. The right artery may be injected from the left in the transverse fissure, and it has been shown that this communication takes place by means of the vaginal branches given off by the two arteries in the fissure; but if the left artery, or a branch of it, be injected at its entrance into its canal, after the vaginal branches of the fissure are given off, the injection will not return by the right artery. From this experiment it would appear that no anastomoses take place between the interlobular arteries; but as the vaginal arteries communicate freely with each other, and as the interlobular ducts also communicate with each other, and as the arteries ramify in the coats of the ducts, we may conclude that the interlobular arteries anastomose.

From the superficial interlobular fissures, small arteries emerge and ramify in the proper capsule on the convex and concave surfaces of the liver, and in the ligaments. These are the capsular arteries. They vary much in number in different subjects, being always most numerous in those in which the capsule is most developed. In those animals in which the liver has a peritoneal coat only, and no proper capsule, no capsular arteries can be shown by injection. In those subjects in which the capsular arteries are numerous, these vessels cover the surfaces of the liver with a beautiful plexus: those of the right lobe anastomose with those of the left, and both anastomose with branches of the phrenic, internal mammary, and supra-renal arteries; some, leaving the liver, ramify under the peritoneum covering the right kidney; others pass along the ligamentum teres to the umbilicus, and anastomose with the epigastric arteries.

All the capsular arteries, arising from whatever source, ramify in the proper capsule, and they may be all injected from the hepatic artery. I have never seen injected vessels in the peritoneum, but as recent adhesions between the liver and diaphragm may be injected from the hepatic artery, it appears evident that the peritoneal coat of the liver is nourished by this artery. That the proper vessels of the liver anastomose with those which Walter calls the proper vessels of the membrane, is proved by the fact, that recent adhesions between the right lung and the diaphragm may be injected from the hepatic artery, the injection passing from the capsular branches of this vessel into those of the phrenic, and thence into the phrenic arteries themselves. The capsular veins are branches

of the portal vein; these vessels communicate freely with branches of the phrenic veins. In some cases of atrophy of the liver and in cases in which the circulation through the liver has been for some time obstructed, a collateral circulation is established by means of the communications which take place between the capsular branches of the hepatic artery and portal vein, and those of the phrenic artery and vein.

(To be continued.)

OBSERVATIONS

ON THE

INFLUENCE OF A TROPICAL CLIMATE UPON THE CONSTITUTION AND HEALTH

OF

NATIVES OF GREAT BRITAIN.

By Henry Marshall,

Deputy-Inspector General of Army Hospitals.

(Continued from page 29.)

Table VIII.—Showing the Annual Decrement by Death of the 600 Recruits which joined the 13th Regiment in 1826.

	Strength.	Died.	Ratio of Mortality.	Station.
1826,	600	79	13.1	Berhampore.
1827,	521	26	5	Dinapore.
1828,	495	52	10.5	Do.
1829,	443	48	10.8	Do.

Table IX.—Numerical Return of Men belonging to the 45th Regiment, which arrived in Ceylon in July and August, 1819, together with the Volunteers and Recruits that joined and the Deaths which occurred till the 31st December, 1830, being a period of Eleven Years and Six Months.

Date of Arrival.		Strength	Died in. 1819.	1820.	1821.	1822.	1823.	1824.	1825.	1826.	1827.	1828.	1829.	1830.	Total.
July and August,.....	1819,	716	21	37	24	45	21	89	69	71	32	6	7	5	427
November,.....	1820,	5	..	1	..	1	1	2	..	...	...	..	..	..	5
May and June, ...	1821,	13	..	..	..	..	1	2	1	2	1	..	..	1	8
	1822,	0	..	..	..	..	..	...	..	...	...	..	..	..	....
January and June,..... .	1823.	10	..	..	..	..	3	1	1	3	1	..	..	..	9
February and July, ...	1824,	40	..	..	..	..	..	9	9	8	2	2	..	1	31
January. Aug. and Oct...	1825,	175	..	.	..	..	..	...	15	65	20	3	4	1	108
March, Sept. and October,	1826,	309	..	..	..	..	..	...	..	31	45	10	15	8	109
June,.....	1827,	200	..	..	..	..	..	...	..	..	19	14	10	7	50
September and October,..	1828,	116	..	..	..	..	..	...	..	...	...	5	2	2	9
Feb. March, and August,.	1829,	32	..	..	..	..	..	...	..	...	...	..	..	1	1
September,..... .	1830,	27	..	..	..	..	..	...	..	...	...	..	..	..	....
Total,		1643	21	38	24	46	26	103	95	180	120	40	38	26	757

The mean annual ratio of mortality which occurred in this Regiment from 1819 to 1830 (twelve years) was 11.5 per cent. Discharged 3 per cent.

Table X.—Showing the Annual Decrement by Death of the 716 Men which arrived in India with the Head Quarters of the 45th Regiment.

	Strength.	Died.	Ratio of Mortality.	Stations.
1819,	716	21	2.9	Kandy—Ceylon.
1820,	695	37	5.4	Kandy.
1821,	688	24	3.6	Trincomalee.
1822,	634	46	7.2	Colombo.
1823,	589	21	3.4	Colombo.
1824,	568	82	15.5	Colombo and Kandy.
1825,	479	69	14.4	Kandy—Madras.
1826,	410	71	17.3	Madras—Burmese territory.
1827,	339	32	9.4	Burmese territory.
1828,	307	6	1.9	Moulmeyn.
1829,	301	7	2.3	Do.
1830,	294	5	1.7	Do.

TABLE XI.—Numerical return of the Men belonging to the Service Companies of the 19th Regiment, which arrived in the West Indies in December 1826, together with the Volunteers and Recruits that joined, and the number of Deaths and Discharges which occurred till the 31st December 1833, being a period of Seven Years.

Date of Arrival.		Strength.	1827.		1828.		1829.		1830.		1831.		1832.		1833.		Total.	
			Died.	Discharg.	Died.	Discharg.	Died.	Discharg.	Died.	Discharg.	Died.	Discharg.	Died.	Discharg.	Died.	Discharg.	Died.	Discharg.
6th Dec. 1826, Jan...	1827,	556	118	9	14	27	5	9	12	6	8	11	19	4	19	10	195	76
January, ...	1828,	20	....	..	..	..	..	1	..	..	..	1	2	..	2	1	4	3
November, ...	1828.	151	....	..	..	..	4	1	4	..	2	..	18	..	7	2	35	3
March, ...	1829,	1	....	..	..	..	..	..	..	..	..	..	..	..	..	..	....	..
December, ...	1829,	21	....	..	..	..	..	..	..	..	..	2	..	..	1	1	1	3
December, ...	1829,	6	....	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..
February, ...	1830,	1	....	..	..	..	..	..	..	.	..	..	..	1	..	..	....	1
May, ...	1830.	1	....	..	..	..	..	..	..	..	..	..	..	..	..	..	....	..
January, ...	1830,	4	...	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..
July, ...	1831,	3	....	..	..	..	..	..	..	.	..	..	..	..	..	1	....	1
February, ...	1832.	3	....	..	..	..	..	..	..	..	..	..	..	..	..	..	....	..
May, ...	1832,	51	....	..	..	..	..	..	..	..	..	..	..	..	2	..	2	..
November, ...	1832,	4	....	..	..	..	.	..	..	..	..	..	..	..	..	..	....	..
Total,		822	118	9	14	27	9	11	16	6	11	14	39	5	32	15	239	87

The mean annual ratio of mortality of the Service companies of the 19th Regiment during the period embraced in the above return, (seven years,) was 5.3 per cent.

TABLE XII.—Statement of the annual decrement by death and disabilities of the 556 men which accompanied the Head Quarters of the 19th Regiment to the West Indies.

	Strength.	Died.	Ratio of deaths per cent.	Discharged.	Ratio discharged men per cent.	Stations.
1827,	556	118	21.2	9	1.6	Demerara.
1828,	429	14	3.2	27	6.2	Barbadoes.
1829,	388	5	1.3	9	2.3	Do.
1830,	375	12	3.1	6	1.6	Grenada and St. Vincents.
1831,	357	8	2.2	11	3	Do.
1832,	338	19	5.6	4	1.1	Trinidad and Tobago.
1833,	315	19	6	10	3.1	Do.

TABLE XIII.—Numerical Return of the men belonging to the 92d Regiment, which arrived in Jamaica in June 1819, together with the Volunteers and Recruits that joined, and the deaths which occurred till May 1827, being a period of eight years.

Date of arrival in Jamaica.		Strength.	Died in									
Months.	Years.		1819	1820	1821	1822	1823	1824	1825	1826	1827	Total.
June,.. ..	1819	650	280	22	30	24	8	16	24	10	4	418
May, ...	1820	56	0	3	4	3	0	5	8	2	0	25
January,..	1821	294	0	0	41	26	21	11	57	12	1	169
March,.. .	1822	71	0	0	0	4	2	12	17	1	0	36
January ..	1823	4	0	0	0	0	0	1	0	0	0	1
February,.	1824	31	0	0	0	0	0	9	8	0	0	17
Ditto, ...	1825	40	0	0	0	0	0	0	11	1	2	14
Ditto, ...	1826	60	0	0	0	0	0	0	0	0	1	1
Total,		1206	280	25	75	57	31	54	125	26	8	681

TABLE XIV.—Showing the Annual Decrement by Death of the 650 men who accompanied the head quarters of the 92d regiment to Jamaica.

	Strength.	Died.	Ratio of deaths per cent.	Mean of seven years.
1819,	650	280	43.	
1820,	370	22	6	
1821,	348	30	8.6	
1822,	318	24	7.5	
1823,	294	8	2.7	
1824,	286	16	6	5.6
1825,	270	24	8.8	
1826,	246	10	4	
1827,	236	4	1.7	

The following return is intended to show the indiscriminate and powerful influence of the cause of endemic fever on some occasions in tropical climates. Intemperance, privations of various kinds, exposure to inclemencies of weather, and great fatigue, contribute much to increase disease, and to augment the rate of mortality; but the strictest temperance, and the greatest precaution in regard to health, are often totally inadequate to guard against the diseases of equinoctial regions.

Statement showing the Strength of the Commissioned Officers and other classes of persons belonging to the 92d Regiment, on its arrival in Jamaica in June 1819, together with the numbers that died from that period till the 31st December of the same year.

Class.	Strength.	Died in six months.	Ratio of deaths per cent.
Commissioned officers,	27	10	37
Officers' wives,	5	4	80
Soldiers,	650	280	43
Wives of soldiers,	60	29	48
Children of soldiers,	70	38	54

Table XV.—Showing the Annual Decrement by death of the 294 Volunteers which joined the 92d Regiment in Jamaica in 1821.

	Strength.	Died.	Ratio of deaths per cent.	Mean of seven years.
1821,	294	41	13.9	
1822,	253	26	10.2	
1823,	227	21	9.2	
1824,	216	11	5.	
1825,	205	57	27.3	10.6
1826,	148	12	8.1	
1827,	136	1	.7	
1828,	135			

It is remarkable that the mean mortality of the volunteers should be about double that of the men who accompanied the head quarters of the regiment to Jamaica, during the period from 1821 to 1828. The volunteers were received from corps which were ordered to Europe, after having served about nine years in Jamaica.

These tables are so limited both in regard to the number of regiments and the period of time they comprehend, that, no decided conclusion can be drawn from them respecting the question at issue.

What evidence have we of the alleged comparative exemption of the progeny of natives of the united kingdom born in a tropical climate from the diseases and ratio of mortality to which their parents were liable? I am not aware of the existence of any statistical information before the public calculated to answer this question. That the offspring of British parents lose the susceptibility of their progenitors to disease, and become assimilated to the constitution of the indigenous races after several generations of unmixed descent and continued residence, has not been satisfactorily proved. The ratio of mortality of the children of British residents in intertropical latitudes is usually considered high, and it is commonly observed, that they require to be removed at an early age to a temperate climate. They are observed also to die of the same diseases which prevail among adults, namely, fever and bowel complaints. Indeed, it is well-known that the progeny of imported inhabitants in some tropical climates are extremely obnoxious to the cause of endemic disease, so much so that they frequently become blighted and stunted in their growth, without the appearance of the pathognomonic symptoms of any specific malady.

Would a colony of the natives of Great Britain keep up their numbers in a tropical climate in which the mean temperature is above 78° or 79° of Fahrenheit? So far as I know there are no facts before the public which would warrant a reply to the above query in the affirmative. The Portuguese and Dutch who colonised extensively in India for two or three hundred years, are gradually disappearing in that country. Unless the births in a colony equal or exceed the number of deaths, the strength or general numbers must decrease. Now, we have no reason to believe that the births in a colony of natives of Great Britain in a tropical climate would nearly equal the mean ratio of deaths in the whole population. It may, I think, be inferred from all we know on this subject, that the original migration of particular races of mankind, whether from high to low latitudes, or from low to high latitudes, must have been very gradual. Although man has peopled the surface of the whole earth, he is but little qualified to make rapid transitions from one part to another.

There are several domestic animals which are similarly predisposed to disease in India when they are imported from the united kingdom. Dogs are particularly liable to disease; they soon droop and become excessively thin. Many die before they are six months in India, and only a small ratio survive a few years. They rarely propagate their species. Imported cows and sheep do not thrive. Horses from high latitudes are neither so efficient nor so healthy as in their own country. Animals which are common to a temperate and a tropical climate are perhaps generally smaller in size in equatorial regions than in high latitudes, such, for example, as the sheep, the fox, the hare, and some varieties of the deer kind.

For the purpose of comparing the ratio of mortality which occurs among the natives of the united kingdom employed in the West India Islands, with that of natives of the southern coast of Europe exposed to a similar climate, I have compiled the following return:

Table XVI.—Return of the strength of the Regiment of Infantry of Granada, composed entirely of Europeans, and of the number who died during the years 1817 to 1830, being a period of fourteen years. Station Garrison of Puerto Rico.

	Mean strength.	Died.	Ratio of deaths.
1817,	570	23	4.
1818,	520	16	3.
1819,	462	10	2.2
1820,	430	8	2.1
1821,	314	19	6.
1822,	241	6	2.5
1823,	432	18	4.2
1824,	549	25	4.6
1825,	764	53	6.9
1826,	1453	111	7 6
1827,	1437	157	10.8
1828,	1444	75	5.1
1829,	1363	89	6 5
1830,	1270	67	5.3
	11249	877	
Mean of 14 years,	803	48	5.9,

This ratio of mortality, (5.9 per cent.) is little more than one-half of the mean ratio of mortality among British troops in the West Indies. But it may, I believe, be presumed, that the above ratio of mortality is higher than the usual rate among troops in Puerto Rico. During the period included in the return, Spain made some hard struggles to regain possession of her continental territories, and for that purpose the Regiment of Granada furnished many detachments. In such cases the most efficient and healthy men are selected for service; and as the infirm remain at the head quarters, the ratio of mortality is increased.

The Regiment of Granada is recruited in Spain, the southern limit of which is about the 36° of N. Lat. and the mean temperature 66°.2, whereas the southern limit of the united kingdom is 50° N. Lat. and the mean temperature 53.6°. The difference of a climate of 16° of latitude, and 12.6° of temperature, seems to render the Spaniard less susceptible to the deleterious influence of a tropical climate than the inhabitants of Great Britain. But to institute a rigorous comparison in this respect, the troops of the different countries should be employed in the same station. With respect to the progeny of Spaniards in Puerto Rico, the following statement, compiled from Colonel Flinter's account of that island, is very conclusive.

Name.	North lat.	Long. west.	Extent. Length in miles.	Extent. Breadth in miles.	Mean temp.	An. fall of rain in inch.	Population in 1828.	Deaths per cent.	Births per cent.	An. increase of popula.
Puerto Rico.	18	64.67	90	33	81.3	77	Whites, .. 150.311 Free blacks, 120.487 Slaves,.... 31.874	2.12 3.12 3.60	3.75 5.84 5.69	1.63 2.72 2.

I am not aware of the existence of a similar statistical document in regard to any of the British possessions in the West Indies with which to compare it. A return of the strength, mortality, &c. of the "Tenantry" of Barbadoes would be an interesting document. By the laws of the colony every estate is obliged to maintain a certain number of whites in proportion to its extent. These people are denominated "Tenantry," and they have an indefeasible right for life in a house and garden, on the respective plantations. The militia is chiefly composed of tenantry, but, with the exception of occasional military duties, they live in a state of complete idleness.

The foregoing statistical account of Puerto Rico shows that Spaniards may subsist and perpetuate their kind in that island. The difference in latitude between the south of Spain and Puerto Rico is 18°, and the mean difference of temperature 15°. Colonel Flinter undertakes "to prove that white men equally as people of colour, born within the tropics can work in the field as well as the natives of Africa." This observation, it will be noticed, is not confined to the inhabitants of Spain, but embraces by the term "white men," a very extensive range. So far as I know, his opinion has not been practically confirmed with respect to the natives of Great Britain. The difference of latitude between the south coast of England and Jamaica is 32°, and the difference of mean temperature about 28° Fahr.

Colonel Flinter, who served with the British and Spanish armies for a period of twenty years in the West India Islands, says, that "the Spanish soldier suffers less, and the British soldier more, from the effects of the West India climate than those of any other

nation. This may partly be attributed to the climate of Spain being warmer than that of England, and partly to the habitual abstinence of the Spanish soldiers." He adds, "It is calculated that the French lose 15 per cent. of their troops (annually ?) in the West Indies, and the British a still greater number."

Colonel Flinter is probably right in his opinion regarding the causes of the low ratio of mortality which occurs among the Spanish soldiers in the West Indies. As British soldiers have a greater predisposition to disease in tropical climate than Spaniards, we should devote a corresponding degree of care and attention to whatever means may be calculated to preserve their health. Would a gradual change of climate be beneficial in preparing soldiers for service in the West Indies? For example, would it be advantageous to employ troops in Gibraltar, Malta, or the Ionian Islands, previously to their being sent to Jamaica, or the Windward and Leeward Islands? I fear not; but an answer to this query can be satisfactorily given by statistical facts only: There is no other evidence which can be depended upon.

The habitual abstinence of the Spanish soldier must contribute greatly to lessen the influence of the cause of disease in warm climates. Even in our own army, something may, I hope, be accomplished in checking the irregularities of the soldier, who, it must be confessed, is but too prone to avail himself of the facilities that present themselves in the East and West Indies to gratify his propensities. Much good might be done were the prospects of non-commissioned officers improved, and a system of rewards for exemplary conduct established, and by countenancing savings banks and libraries in regiments. Would it not be a prudent measure to reward a deserving non-commissioned officer with a commission more frequently than has been the usage for some years? The hope of improving our situation in life is so powerful a stimulus to good conduct that it should never be withdrawn. An event of this kind taking place in a regiment must have an excellent effect in encouraging good men, whose example would have a beneficial influence upon individuals more disposed to commit irregularities. If we wish to engage a class of recruits superior in mental acquirements and conduct to those who usually offer themselves, we must hold out a higher prize to volunteers.

Much has been done during the present century to improve the condition and preserve the health of soldiers; but much requires still to be effected for similar purposes. Among several measures which might be suggested there is one, which, if well executed, would be of much practical benefit; namely, a brief but comprehensive treatise on the means of preserving the health of soldiers, and of rendering them efficient during a period of peace. A work of this kind would be of incalculable advantage to the junior branches of the medical department, as well as to the non-medical classes of the officers of the army. It might embrace in a general way all that body of information which every medical officer who has been long in the service acquires in a greater or less degree, but frequently not until he has committed blunders that might have been obviated had he been earlier and better instructed. This information is not generally communicated in the medical schools, nor has it hitherto been conveyed in a comprehensive manner by books in the English language, although it is essentially necessary for the efficiency of a medical officer. Among the numerous topics which would require to be discussed in a treatise on military *Hygiene*, the following should obviously be comprehended: The recruiting of the army, bounty, pay, pensions, rewards, provisions, messing, &c.; barracks, transports and clothing; personal cleanliness; duties and exercise of soldiers; schools and regimental libraries; military discipline, punishments, coercive and corporal; habits of soldiers, comprehending virtues and vices;—the constitution of the medical department and the duties of the medical staff, both general and regimental; military hospitals, moral treatment of the sick, the compilation of numerical returns of sick, and the plan of drawing up reports of diseases, both special and general;—proceedings of boards, sick certificates, &c. together with the general principles of military statistics and medical topography; and, lastly, instructions to young medical officers respecting their general conduct, specially in regard to their superiors, their equals, inferiors, and patients.—*Edin. Med. and Surg. Jour. July* 1835.

OBSERVATIONS

UPON

AN EPIDEMIC GANGRENE OF THE SPLEEN,

WHICH OCCURRED DURING THE YEAR 1831, AT DORFE MANDROWO, RUSSIA.

By Dr. Magaziner.

At the end of January, 1831, three inhabitants of the district died suddenly, without the cause of death being known; one on the first, the other on the second, and the third on the third day of his illness; the three patients had suffered under a burning pain below the precordial region, nausea, pain in the abdomen, and especially about the spleen. Five days afterwards a female and three males were seized with the same symptoms. The physician called in immediately suspected the existence of the *Siberian epidemic*, and ordered blood-letting, leeches to the left side, and a draught containing muriatic acid. On the following day, 28th, the patients complained of great thirst, dryness in the mouth, severe pain in the head, and were unable to lie on the left side. A copious bleeding, and the administration of acid drinks, cut short the bad symptoms in two cases, and improved the other two.

Two of the bodies of those who first died were now examined, and gave the following appearances:—Body of the patient dead on the third day—a dark spot on the left side of the abdomen; traces of inflammation here and there on the peritoneum, stomach and

intestines dilated with gas, and inflammation of their external surface; the spleen much enlarged and tender; when divided gave issue to a great deal of dark blood, and presented on its under surface a large gangrenous point. Nothing abnormal in the head or chest. The appearances were the same in the body of the other patient. On the 29th two females were seized with the symptoms we have already enumerated, and the writer now recognised the existence of the *Siberian epidemic*, or "splenitis gangrenosa," and ordered all the usual prophylactic and hygienic measures to be taken against its further extension. Besides the symptoms which we have already noticed during the progress of the disease, the breathing became difficult; the pulse frequent and hard, sometimes full, sometimes small; the stools natural; urine in small quantity and red-coloured. This feverished state was followed in a few days by symptoms of putridity; severe pain in the side, meteorismus, excessive thirst, constant vomiting, yellowness of the skin, weak pulse, cramps and coldness of the extremities, and death. When the result was more fortunate, the fever terminated with some uneasiness in the left hypochondrium, which however soon went off. The disease was never observed amongst children. The treatment consisted in antiphlogistic measures, joined with camphor and infusion of the cal. aromat, in two cases where the fever had assumed a typhoid character.—*Kelinert's Repert., from Russian Military Medical Gazette*, No. 3, 1833.

HECKRE'S ANNALENDER GESAMMTEN HEILKUNDE.

1835. Nos. 2 & 3.

The last two numbers of this magazine which we have received contain the following original articles :—

1st. An exposition of the physiognomy of Scipio Claramontius, by Dr. Ideler.

An analysis of a very curious work, now little known, published in the year 1665. It contains many interesting and philosophical views.

2nd. On Œdoecitis Gangrenosa puellarum, by Dr. Richter.

This is a short analysis of the symptoms, progress, and treatment of this disease, as observed by the author, and a comparison of his observations with those of Kinder Wood (who he assures us is not Underwood), Isnard-Cevoule, and James. This disease attacks the genital female organs of young infants in two forms, either as a rapid ulcerative process, or true gangrene. The difference which exists between the different writers on the disease, is to be explained by this circumstance. Its causes are in many cases very obscure; however, it often occurs as a consequence of preceding disease. Thus Isnard-Cevoule has seen it preceded by measles, whooping-cough, and scrofula, and the author by inflammation of the lungs. With regard to the latter we may remark, that we have frequently seen pulmonary inflammation terminate at the *Hospital des Enfans* by gangrena oris. Children of one year old or under, are not so subject to this disease as those a little more advanced, in the second or third year In the commencement of the disease, the best treatment consists in emetic and purgative remedies, with local aromatic fomentations, rendered stimulant by some spirituous fluid. Wood recommends in this stage calomel and rhubarb, with the liq. plumb. acet. as a lotion. When gangrene threatens, we must have recourse to the usual tonics, &c., with the local use of the mineral or acetic acids. The author attributes the little success of Wood (he only saved two patients out of twelve) to his continuing the liq. plumb. acetatis during the sloughing process, and neglecting all other local means.

3rd. Medical superstitions, by Dr. Ideler.

4th. Experiments with Creosote, by Dr. Kohler, Warschau.

5th. Practical Sketches, by professor Lichtenstadt, St. Petersburgh.

These contain amongst others, three cases of what the profession calls *local intermittent fever*. The first was the case of a man who was attacked every day at eleven o'clock with a severe pain in the eyelid, which lasted about two hours, and then gradually disappeared, without any sweating. During the continuance of the pain, the pulse and skin were very feverish; dormivatives were employed without any use. Vomitives and other remedies being unavailing, the author had recourse to bark, and all local and general symptoms soon disappeared. The second case was very similar to the former; a female of delicate constitution was seized every day with pain over the left eyebrow, which lasted some hours. The pain was in this case very violent, and the author found the patient with the upper eyelid and neighbouring parts of the nose red, hot, and swollen, the body hot, and commencing to sweat; the pulse 80; urine brown-red. In the afternoon all these symptoms had disappeared.

The professor determined on treating his patient for intermittent fever; however, he waited until next day; at eight o'clock the pain came on again more violently than before; the soft parts of the left eye and side of the nose became very hot and tumid, the conjunctiva dark-red, the sensibility to light great, the pain ran in the direction of the supra-orbital nerve, and was so severe that the patient became delirious; this state continued for a few hours, but in the evening nothing remained except some weakness and exhaustion. Quinine was now given, and on the following day the fit came on somewhat later, and was of shorter duration. The medicine was employed for a few days more, until the febrile symptoms were completely removed, and a tenderness and tumidity of the affected parts corrected by friction with Extr. Bellad. Æth. p.

ON A PECULIAR DEFORMITY OF THE FEMALE PELVIS.

BY PROFESSOR NÆGELE.

In this particular malformation, not as yet described by any writer, the pelvis presents an oblique appearance; symphysis pubis appears pressed to one side, the sacrum to the other, and the inlet, cavity, and outlet of

the pelvis, are diminished in the direction of one oblique diameter, but a little increased in the other one, whence the superior orifice has the appearance of an oblique oval. The deformity is caused by the manner in which the ossa innominata are connected with the sacrum : the sacro-iliac symphysis at one side which is turned towards the pointed extremity of the oval, shows some trace of synchondrosis, but at the opposite side it is completely wanting—the bones are here united by an osseous mass, and do not show the least sign of the existence of a symphysis. The bones of the pelvis do not exhibit any appearance of rachitis, &c. having existed, and the vertebral column is free from any curve. Professor Nægele has already met with nine examples of this malformation, whose diagnosis is the more difficult as it is not revealed by any external appearance, and neither the external measurement with Baudelocque's compass nor the internal leads to a satisfactory result ; in all the cases both mother and child lost their lives.

Professor Nægele proposes to treat again and at greater length on this malformation.—*From Heidel Klin. Annal. B.* 10, *H.* 3.

RUST'S MAGAZINE.
Vol. 44, No. 1.

1st. Chemico-physiological examination of the blood of the vena porta. By professor Schultz, Berlin.

2nd. Observations of several symptomatic form of disease, accompanied by a greater or less extensive tenderness of the vertebral column. By Dr. Enz.

3rd. Medico-legal report on a case of sudden death.

4th. Uncertain mineral springs. By Dr. Wendt.

No. 1. Professor Schultz has made several expriments at the Veterinary school of Berlin, on the blood contained in the vena porta and its branches. They were performed on the horses as it was almost impossible to obtain a sufficient quantity of arterial, venous, and hepatic blood from the vessels of the same human individual. Our space will not permit us to enter into any of the details of the various experiments performed to ascertain the quantity of blood contained in the system on the vena porta, the proportion of fibrine, of water, the nature and peculiarity of its cruor, &c. We can only notice the general result obtained.

Peculiarities of the Blood contained in the System of the Vena Porta.

1st. The blood of the vena porta is generally darker than venous blood ; the perfectly dark hepatic* blood is not reddened by neutral salts, or exposure to air, and very little by oxygen.

2nd. It does not coagulate, or when coagulated is less firm than venous blood. In the latter case, the coagulum liquifies after twelve or twenty-four hours, and forms a dark layer over the clear serum.

3d. In the moist state it contains 5.23 per cent. less than arterial or venous blood; in the dry state 0.74 less.

4th. Fluid hepatic blood contains a little less (0.18 to 0.3 per cent.) of solid parts than arterial or venous blood.

5th. The serum of hepatic blood contains 1.58 per cent. less solid constituent parts than the serum arterial blood, and 0.80 per cent. less than that of venous blood. The dried serum of hepatic blood is of an ash-gray colour, that of venous blood yellow-gray, and of arterial blood yellow.

6th. The blood of the vena porta system (hepatic blood) contains comparatively more cruor and less of the other constituent parts. The dried cruor of hepatic blood is of a dirty gray-brown colour, that of venous blood dark-red, and that of arterial blood of a deep-red colour.

7th. The solid constituent parts of hepatic blood contain in general nearly twice as much fatty matter as those of arterial or venous blood (1.66 per cent., while arterial blood contains merely 0.92 per cent., and venous only 0.83 per cent.)

8th. Dried serum of hepatic blood contains only 0.27 more fat than dried serum of arterial or venous blood.

9th. The cruor of hepatic blood contains n the dried state 1.111 per cent. more fat than that of arterial blood, and 1.21 per cent. more than the cruor of venous blood.

10th. The greatest difference is seen in the fibrine. Dry fibrine of hepatic blood contains 10.70 per cent. of fatty matter ; the dry fibrine of arterial blood 2.34 per cent. :—hence the former contains more fatty principle than the latter by 8,36 per cent.

11th. The fat derived from hepatic blood is of a dark-brown colour, that of arterial and venous blood is white or yellowish-white, and of a crystalline appearance. The fat of the chyle is white, two-thirds fluid, and one-third crystalline.

* We use the word hepatic to express the blood of the vena porta " Pfortaderblut."

RUMINATION IN A FEMALE.

Dr. Elliotson the other day related the case of an old lady in her eighty-ninth year, who has ruminated from her earliest years ; she enjoys excellent health, and has for a considerable time lived in the following manner :—she has tea and buttered toast for breakfast ; bread dipped in gravy, and potatoes, for dinner, and tea or sometimes coffee in the evening. She ruminates generally after every meal, and uniformly after dinner ; some kinds of food and liquid never rise in her mouth, such are wine, beer, and cider; tea does so in the afternoon, but not in the morning, water always rises, and seems to be most efficacious in causing the other articles to rise ; when she takes it with her potatoes at noon, they always come up with a very pleasant taste. Buttered toast and tea generally rise with a very unpleasant taste, as do also all greasy things, sometimes coming up for several times successively until she spits them out. The food always comes up with a rushing noise, like the sound of the sea ; but medicines never come up again ; the faculty is

quite involuntary ; the food sometimes rises directly after being swallowed, sometimes not for an hour or more ; if she takes much water, the return is always quicker than when she does not. She chews her food the first time very much, before swallowing it, and it never feels heavy at the throat, before it comes up again. When she is ill she ceases to ruminate. The food she takes first alway comes up first, generally in the same state in which it was swallowed. It is curious that the hard parts of oranges always rise, while the juice invariably remains on the stomach. She thinks the faculty not at all uncommon, and supposes that most of her acquaintance have the same power of rumination as herself. Her father and one of her brothers possessed this faculty, but they both died early ; she is herself in excellent health, and bordering on ninety.

Dr. E. had never before heard of a female who ruminated, though there are several on record of this faculty being possessed by men. Blumenbach has recorded four examples, in two of which it was voluntary, and in two compulsory ; they had always real gratification in ruminating.

There was a case of this kind a few years back in the London Hospital ; the *Philosophical Transactions* also contain the history of a case which occurred in a young man twenty years of age, a native of Bristol. He had ruminated from his earliest recollections, and he always chewed his food a second time after swallowing it. The process began in a quarter of an hour, if he had taken any liquid at his meal, but later if he had not ; sometimes after full meal it would be an hour and a half. Unlike the case of the old lady, before the second chewing, the food appeared to lie heavy in the lower part of his throat, and after the second chewing the food passed completely away. If he ate a variety, that which passed down first came up first, having a pleasant taste ; and when the faculty left him he became ill. His father had also ruminated.

ST. BARTHOLOMEW'S HOSPITAL.

TRISMUS.

Successfully treated.

George Tupp, ætat. seventeen, was admitted into Matthew's ward, June 10th. He has a flushed countenance and hot skin. The pupils of his eyes are permanently dilated, the iris not contracting in the slightest degree on exposure to strong light ; the eyelids are strongly contracted with some knitting of the brows ; the teeth are firmly closed, that considerable force is required to insert between them the handle of spoon. He appears to be perfectly insensible when spoken to, and at times is very restless and moaning, whilst at others he lies quiet and is composed. The sensation and powers of motion of his extremities are perfect, and he resists pressure made on the abdomen, which is soft and tolerably flaccid ; pulse 114, soft and easily compressed ; breathing natural ; there exists no hardness or contraction of the muscles, excepting those of the jaw. The following history of the case has been obtained : He has been subject to head-aehs for some months, though his alvine dejections have been regular, and his bowels are easily acted on by medicine. He felt ill a few days since, and complained of shivering, and then becoming hot and feverish. These symptoms were followed by flushing of the countenance. Yesterday at 3 p.m. he got out of bed by himself to make water, and also spoke to his mother ; at six o'clock, however he became speechless and his jaw was rigidly fixed. Cupping and calomel ordered.

11th. He was more sensible after the cupping, but no effect has been produced by the calomel, and it is exceedingly doubtful whether it was at all swallowed ; he has been moaning and alternately tranquil since two o'clock. There has been considerable restlessness, with jactitation ; the eyes exhibit a peculiar vacant stare, and the pupils remain dilated ; the muscles, generally, possess little or no rigidity ; on pressing the abdomen some tenderness is induced ; along the whole course of the spine there is perfect freedom from pain or pressure, the heat of skin is great ; pulse remains unchanged.—*One Drop of Croton Oil immediately.*

There has been a considerable involuntary discharge of urine, since which he has appeared to experience relief. Deglutition is accompanied by deep inspiration, and a passive state of the thoracic cartilages.

12. Ten o'clock a.m. Passed a restless night, and his motions were voided involuntarily ; they were watery and yellow, though not very offensive ; his present state is somewhat improved, as he possesses sufficient power over the muscles of the jaw to open his mouth ; and he swallows fluids rather avariciously. There is some vascularity and a dirty mucous secretion about the tonsils and palate ; the speech is thick, but he can answer interrogatories.—*A Common Gargle ordered.*

Two o'clock p.m. More restlessness this morning ; there is likewise greater dilatation of the pupils ; he directs attention to his throat as causing him pain ; though the mouth is slightly open, yet there is total inability to protrude the tongue, which appears to be completely paralysed.—*Apply Twelve Leeches to the throat.*

13. The leeches bled profusely ; he passed from a low muttering state into one very refractory, getting out of bed, &c. ; his conversation is also somewhat incoherent.

14. Mr. Wheeler, the apothecary, who saw him last night, ordered a blister to be applied to the back of the neck after which the patient rested comfortably, and is now quite rational ; his tongue is moist and clean, and the bowels are open ; there is a perfect absence from trismus or pain of any description.

21. Has been up and perambulating the ward for some days. On subsequently leaving the hospital he appeared to be in good health.

FEVER WITH BRUISSEMENT OF THE HEART.

Sarah Cox, aged 14, was admitted into Mary's ward, under Dr. Latham's care, on the 28th of May, and presented the following

symptoms:—Anxiety of countenance; skins pale though warm; her tongue chapped, rough, and rather dry; she complains of continued pain across the forehead, and answer questions very reluctantly; she has no cough or uneasiness of the chest; her abdomen is tumid, and somewhat impatient of pressure; total loss of appetite; great thirst; her bowels open, and her urine small in quantity and high-coloured. The subjoined facts have been elicited from her:—That about a fortnight previous to her admittance into the hospital she was attacked with severe rigors, succeeded by flushes of heat, and great prostration of strength, so as to disable her from walking; these symptoms had been preceded by headach,—a week subsequent to this period she had been bled, and had taken some physic. Is ordered two grains and a half of hydrarg. c. creta every six hours, and eight leeches to the forehead.

29. The pain in the head is mitigated by the bleeding, though not altogether removed; her night has proved watchful, restless, and accompanied by low delirious muttering; her tongue is clean, though dry and glazed; her thirst is very great; has had two motions, which were dark, watery, and slimy.

30. Has slept at intervals during the night; great anxiety of countenance; complains of alternate heat and cold, with pain in the head and abdomen; her tongue is moister and less glazed, and rough to the touch; her bowels have been opened, but the dejections have not been kept.

31. States that she is quite free from pain; the tongue still somewhat glazed towards its centre, though moistened at its edges; the thirst is much mitigated; the pulse, however, is hurried and jerking, and such a peculiar thrill is communicated to the finger that an examination of the chest is proposed. *Auscultation.*—The heart's impulse is much increased beyond what is generally observed, and its contraction produces a distinct *roughness* in its sound. The respiration is tranquil and perfect. She complains of no pain in the chest save a slight stitch in the left hypochondrium on making a deep inspiration. There is no tenderness on pressure in the cardiac region. Ten leeches are ordered to the chest, and two grains of *calomel* with a quarter of a grain of *opium* every six hours.

June 1. Has slept well; countenance still pale and anxious; tongue chapped and glazed; other symptoms unabated.

2. Has had a good night; pulse 90, nearly natural in character; *bruissement* scarcely perceptible; the gums are slightly affected by the mercury.

4. Dr. Farre, who visited this patient last night, reports that the bruissement was then as evident as when she was first auscultated; pulse 88, feeble but natural; bowels have been releived once; no pain to taking a deep inspiration; gums are sore. The mercury and opium are ordered to be suspended.

6. Countenance and all the symptons improved, save the unnatural sound of the heart, which is particularly evident in front of the sternum.

11. The lower exterimities are tumid and anasarcous, but there is no diminution in the urinary secretion.

13. Her eyelids are swollen, and she complains of great pain in her head, accompained by flushes of heat; urine scanty; skin hot and dry; pulse 124 and small. *C. c. temporibus ad* ℥viij.

14. All symptoms improved; bowels opened by a dose of *Calomel* and *Jalap*; pulse 120.

22. Has rapidly mended; the feet still swell slightly on attempting to walk; the bruissement has disappeared.

24. Is discharged free from disease.

LITHOTRIPSY.

On Friday, July 17, Mr. Stanley proceeded to operate for stone on a young man about twenty years of age, with Weiss's instrument for crushing the urinary calculus in the bladder, which acts by means of a screw, and obviates the necessity for the use of the hammer. The instrument has already been fully described in our pages. Mr. Stanley stated, before the patient was brought into the operating ward, that as the great advantage of this mode of removing a calculus from the urinary bladder only resulted from entire absence of irritation to that organ or the constitution generally, he did not mean to risk a production of those accidents in this case, by persevering for any length of time in fruitless endeavours to seize the stone, broken as it was into many small pieces by a previous operation which he, Mr. S., had performed a few days since, for although the man was healthy, and had a very capacious bladder, still, to protract a search for the calculus beyond two or three minutes might lead to unpleasant results.

The patient having been secured on Baron Hourteloup's bed, the bladder was injected cautiously with warm water, during which the patient said he experienced no kind of pain. The instrument was then passed slowly into the bladder and the stone was easily grasped, and as readily crushed under the pressure of the screw; the patient complained only of pain as the instrument passed through the prostatic portion of the urethra, which was narrow at that part only, but during the act of breaking the calculus he appeared to be quite easy, entering into conversation with those who stood near him. He remarked that he was sensible that the stone was broken into several portions, for he could feel the fragments fall from the instrument. On making water immediately after the operation, he passed several small portions of stone. After the removal of the patient, the operator exhibited a pill-box as the depository of the fragments which the patient had voided in the interval between the two operations. A third operation was announced to be performed in a few days. At the request of a few of the pupils, the manner in which the instrument was used in groping for the stone was described. After passing it in into the bladder a rotatory movement of the handle led to the discovery on which side the calculus lay, which was then grasped by the beaks of the instrument, the destruction of the stone requiring no particular skill. This was announced as the operator's "first case." The patient is doing well. He has voided fragments, and is in excellent spirits. Although instead of

one stone there are now several portions of irregular sizes, the symptoms of irritation have diminished.—*Lancet August* 1st ; 1835.

PAINFUL CREPITATION OF THE SHEATHS OF TENDONS.

The affection denominated by some surgeons "painful crepitation of the sheaths of the tendons," was first noticed in a very cursory manner by Boyer, but it has only been within the last five years that it has been studied with any attention. M. Velpeau of *La Charite* was the first surgeon who described it in a precise manner. He did so in 1818 ; since then various practitioners have given us a sufficiently faithful account of a disease which though, it has not yet fond a place in surgical works, deserves some attention on the part of the practical surgeon.

The wrist and ankle joints, as every one knows, are surrounded by a number of tendons, many of which are furnished with peculiar aponeurotic sheaths, confounded above and below with the fibrous envelope of the muscles of the limb. These aponeurotic sheaths are the seat of the disease of which we speak ; in most cases it is produced by forcible and long continued tension of the tendons themselves ; at other times by external violence ; it is also most frequently seen in persons whose trade requires violent flexion or motion of the wrists and fingers, as in washerwomen, locksmiths, masons, woodcutters, &c.

The principal systems are, a swelling, of variable form and dimensions, along the affected parts ; pain and redness of the skin, and particularly a crepitation, which sometimes resembles that of fracture so closely that the best surgeon may be mistaken in his diagnosis if he pay too much attention to this latter symptom. The swelling, which rarely exists to any considerable extent, is usually very sensible, but in some few cases so slight as not to be perceived without a minute examination. The pain is most slight when the limb remains at rest, but is always augmented by motion of the limb, or whenever the surgeon presses upon the part, or communicates any motion to the inferior extremity of the limb ; the tumour also is usually prolonged a little along some one of the aponeurotic sheaths, but no deformity whatever of the member can be observed. But the most important system, in fact, the pathognomic sign of the disease, is a crepitation generally resembling that heard in the first period of pneumonia, but on some occasions sufficiently strong to be mistaken for the noise produced by rubbing together the two fragments of a broken bone ; it is, however, in general much mere feeble, and, according to M. Velpeau, resembles the sound produced by walking in a hoar-frost, or over snow when it has frozen. The only disease with which the affection we now speak of his liable to be confounded, is the straining of the ligaments about a joint or a fracture. In some of the former cases we find a kind of crepitation, and it is highly probable that here the two diseases co-exist ; besides, any error cannot be of practical consequence. Fracture of the inferior extremity of the radius has, it would appear, been frequently confounded with the tendinous crepitation. It was upon an occasion of this kind that M. Velpeau had first an opportunity of remarking the affection. It occurred at the hospital of Tours in 1818 :—

A young cabinet-maker came to the hospital to have the splints arranged which a surgeon had applied for supposed fracture of the radius. On removing the dressings, M. Velpeau wished to ascertain the existence of the fracture, and on moving the thumb, was soon convinced that the crepitation alone had given rise to the idea of a fracture, which did not exist. However, a careful comparison of the symptoms will in a great majority of cases suffice to prevent any error. As crepitation of the tendinous sheaths is a slight affection, and constantly is removed by rest, compression, and the use of resolvent applications, no opportunity has as yet occurred of ascertaining its exact seat, which is probably in the cynovial membrane, and not in the fibrous tissue itself.

The treatment of this disease is sufficiently simple. When the pain is considerable, and joined with some redness of the skin, it is natural to apply leeches ; antiphlogistics do not seem to have much effect. The most successful treatment consists in the application of a roller round the swollen part, drawn moderately tight, and moistened with some comphorated spirits of wine, or any other resolvent ; by this means the swelling, pain, and crepitation, generally disappear in a week or two.

This affection, though one of frequent occurrence has not, as far as we remember, been made the subject of any communication in any of the English periodicals. M. Velpeau cites from twenty-five to thirty examples, which he has already met with in the sheath of the peroneal muscles, extensors of the thumb, radial extensors, and extensor communis digiterum ; and cases are now to be seen daily at the consultations of all the hospitals. In two cases treated by M. Velpeau in 1831-2, the disease terminated in a fungous degeneration of the tendinous sheaths of the phalanges.

We have derived the greater part of our information on the above subject from a paper by M. Paulin, in the *Gazette Medical de Paris*, the four numbers of which, from 24 to 27, contain the following orginal articles :—

1st. Memoir on Exostoses, their causes and mode of developement, and the accidents produced by them. Second part. By M. Rognetta.

2nd. On the crepitation of the sheaths of tendons. By L. M. Paulin.

3rd. Observations on the intestinal hemorrhages of young Infants. (Extracted from vol. 1 *Schweiz. Zeit.* &c. 1835.) By C. Rahn-Escher. (We have already noticed this articles.)

4th. Memoir on the cholera of Marseilles in 1834-5, and particularly ont he use of mercurial frictions in large quantities, as a remedy for the disease.

4. MEMOIR ON THE CHOLERA OF MARSEILLES, &c.

The object of this memoir is to prove the great efficacy of mercurial frictions in high doses, in this distructive disease, but we regre to say that it wants that precision, that atten tion to the numeric method, which alone can inspire any confidence in conclusions drawn from medical facts.

During the first two months of its invasion, the march of the cholera at Marseilles was slow. On the 19th of February it began to assume a more formidable aspect, and continued to increase in intensity until the 1st of March, the period of its maximum ; the disease now declined slowly for a week, and disappeared at the commencement of April ; the mortality was 800 in a population of 140,000. It is necessary to note these circumstances, because, in the seventeen cases reported at some length by Dr. Robert, and in which mercurial frictions produced a speedy cure, only three occurred during the period of aggravation ; the rest either preceded the 19th of February, or followed the 1st of May. The quantity of mercurial ointment rubbed in was about two or three ounces in the twenty-four hours ; a scruple of cinnabar was added to each ounce, in order to give it more activity ; the other remedies employed were very insignificant. The following case may serve as an example of the period at which the remedy was given, and the result produced.

Case.—Madame R., wife of a physician, attacked 29th of December 1834, with vomiting, diarrhœa, and colicky pains at seven o'clock a.m. The matter passed was white and serous ; cramps now set in, aad the patient got rapidly worse, in spite of every means employed by her husband and another physician. At two o'clock p.m., the face and extremities were blue, the whole body was cold ; pulse insensible. Mercurial frictions on the lower extremities were now tried, and the violence of the cramps immediately abated ; they were repeated very frequently, and at six o'clock p. m. the patient's state seemed improved : before morning six ounces of double mercurial ointment were rubbed in ; from this moment the improvement went rapidly on, and the patient was well in a few days. The secretion of urine did not take place before the third day. It should be it remarked that this was the first case in which mercurial friction was tried, and that the sixteen individuals who up to that time had been attacked by cholera, were all dead within fourteen hours after the invasion.

It is unnecessary for us to analyze the sixteen cases which follow the above ; the following however is very remarkable :—

Case.—Martini (Demetrius), twenty-four years of age, was suddenly attacked with vomiting and cramps. When called on, the author found him with extremities cold, the voice extinct, the pulse insensible to the touch, and violent cramps ; within an hour after the invasion the extremities were blue. Cold water was ordered for drink, with a lavement of starch, and poppy-heads infusion, and frictions with three ounces of mercurial ointment. The symptoms of cholera were removed in twenty-four hours.

In most of the cases reported by M. Robert the symptoms were very intense, and their removal as sudden whenever the frictions were carefully employed. As we said before, seventeen cases are given ; in all the success was constant, but we are unable to ascertain whether M. Robert treated any other cases in the same manner with different success, or whether, in fact, he cured all the persons who fell under his care ; indeed, the latter conclusion is scarcely probable, for we find that of the seventeen cases alluded to, fifteen are furnished by MM. Reveret and Daimé, while only two belong to this gentleman himself ; as it is impossible to believe that M. Robert has treated only two cholera patients, we find ourselves compelled to suspend any judgment upon the remedy he advocates, until we know in a more precise manner the relation of the deaths or cures to the whole number treated. We should not omit to mention that salivation never followed in any case, although the quantity of strong mercurial ointment rubbed in sometimes amounted to several ounces.

NEW METHOD OF FORMING AN ARTIFICIAL PUPIL.

The following method is described by M. Langier, *Hospital Neckar* :—

The subject of the case operated on, a man 60 years of age, had been operated on by another surgeon last year, for cataract affecting both eyes : extraction was the method employed, but the result was unfortunate ; the left eye was now empty, and the sight of the right eye was destroyed by complete atresia of the iris, the cornea continuing transparent in its whole extent. The operations generally employed for artificial pupil are, it is well known, singularly unsuccessful. The vertical, transverse, or even crucial incision, hardly ever answers. The V incision of M. Maunoir generally gives rise to an effusion of blood which mars the rest of the operation ; and as the cornea was throughout transparent in the present case, decollement of the iris was not to be thought of, as the new pupil would not have been central. M. Langier therefore determined on dividing the cornea as for extraction, and then cutting off a portion of the iris, but on pushing through Richter's knife, the aqueous humour escaped, the iris became applied closely against the back of the cornea, and the point of the knife became engaged in the membrane ; under these circumstances he thought it better to change the plan of operating ; and having taken the depression needle, he introduced it through the wound in the cornea, and making it act as a lever, he succeeded in perforating the central part of the iris by laceration, with very little effort, and without giving rise to any hemorrhage.

The operation was followed by some little pain and inflammation, accidents speedily combated by the usual treatment, and the patient now presents a large, quadrilateral, irregular, and nearly central pupil, and moreover enjoys the full power of sight. The only

question which can be agitated here is, did the cataract needle act on the iris itself, or did it merely lacerate the adherences of the pupillary edge; the author thinks the latter, because a portion of the centre, which before the operation was pale and wrinkled, has now disappeared.

In whatever light we regard it, the operation deserves to be repeated in cases of atresia, after extraction or depression, when the cornea remains transparent: it is superior evidently to detachment after Scarpa's method: it is much more easily executed than excision, and is less liable to be followed by obliteration than incision.

HYDRIODATE OF POTASH IN RHEUMATISM.

Dr. Elliotson has employed this medicine with considerable advantage in several cases of chronic rheumatism. It was administered in the case of a young woman who caught cold about eighteen months since, and who from that time had suffered from rheumatic pains in the joints at the various changes of the weather. On her admission into the hospital, May 26th, she had pains in her loins, shoulders, wrists, and ankles; the joints were not swollen, or preternaturally hot or red. Her general health was pretty good. Two-and-a half grains of the hydriodate of potash were given in solution three times a day.

30. She has pain in the left side, increased on inspiration; she is obliged to lie on her back. Eight leeches are ordered to be applied.

June 2. The pain in the side is better, and the pains in the limbs are gone. She complains of head-ach and a sense of sickness.

6. The head-ach and sickness are gone, but the pains in the joints have returned.

23. Since the last report she has been improving, the dose of the medicine having been gradually increased to seven and a half grains. The pains have now entirely left her, and she was ordered to be discharged.

The other case is that of an old woman, aged 66, who was admitted on May the 12th. Twelve months ago she slept in a bed the pillow of which was damp, and she has since suffered with a severe pain in her neck, shooting up to the ear and into the head. Her strength has been much reduced by the constant pain, which has continually disturbed her rest at night. She took three grains and a half of the hydriodate on her admission, and has had the dose gradually increased to ten grains, which she was taking three times a day just before her discharge. On the 23rd of June she was very much relieved. There have been various local applications, such as iodine and croton oil made to the neck, but the effects of none of them were so striking as to warrant the belief that they administered much to the cure. Dr. Elliotson certainly considered that the benefit might be mainly ascribed to the hydriodate of potash.

TURPENTINE INJECTIONS IN AMENORRHŒA

Two cases of amenorrhœa in this hospital have been completely cured by turpentine injections. The first was that of Emma Lloyd, aged 18, who was admitted April 28th, under the care of Dr. Elliotson. The catamenia disappeared about four months before, in consequence of her having caught cold. She was in good health; the pulse 72, and full; she is, however, subject to swelling of the ankles. She was immediately bled to twelve ounces; and an enema consisting of half an ounce of oil of turpentine and a pint of decoction of barley was ordered to be administered every day. On the 5th of May the catamenia appeared, and she was discharged on the 12th quite well.

The other case is that of Charlotte Wood, aged 16, who was admitted April 14th. The catamenia had disappeared about four months previously, without the cause being known. She appeared on her admission to be in good health; her pulse was 78, and rather full. Ten ounces of blood were drawn, and an injection similar to that which was employed in the last case was administered. The catamenia appeared on the 18th, four days after her admission. The enemata were discontinued, and the catamenial discharge ceased on the next day; they returned on the day following, and finally disappeared two days after that. She was bled to twelve ounces, and discharged quite well on May 12th.

Dr. Elliotson, in making some clinical remarks on these cases, said that he was induced to employ the turpentine injections in cases of suppressed menstruation from the circumstance of turpentine being considered an excellent emmenagogue when taken internally. He consequently thought that it might be successfully used in the form of enema in amenorrhœa, as it was known that when it is employed for the removal of ascarides it is much more effective when administered per anum than when given by the mouth. He had employed this remedy in the case of a lady who was partially insane in consequence of suppression of the catamenia. For eighteen months she had used all the established means for the removal of the disease, without effect, but the second injection of turpentine produced the menstrual discharge, and the insanity dependent on its retention was removed. It was not, however, always so effectual. He had employed it in a case now in the hospital, without success. Two injections had been given daily for some time, but the catamenia had not appeared. He thought that he had given the turpentine a fair trial in that case, and had therefore discontinued it. He had since ordered a slight injection of the liquor ammon. subcarbon. per vaginam, as recommended by an Italian physician, but without as yet doing any good.

CHOREA.

S. Sanes, ætat. eighteen, was brought to Mary's ward, April 30th, exhibiting the following appearances. The countenance pallid; tongue moist, pale, and slightly furred,

the features constantly distorted, and the face somewhat drawn to the right side. The right arm and leg are more affected than their fellows; pulse 160 in a minute, and jerking. particularly so in the right wrist; skin warm, She suffers no pain, save in the head, which at times is very severe, and is referable to the temples; she is frequently attacked by alternations of rigors and flushing heats. She states that her limbs are more tranquil whilst he is walking, or when they become very cold. Her bowels are regular. About a week ago the catamenial discharge made its appearance, but suddenly disappeared; and since that period she has suffered considerable pain in the loins, shooting down to her lips; she says that she experienced headache for some days about three weeks before the period, and that she was bled very largely in consequence, and that "ever since she has had cold feet." *C. C. Nuchæ.* A calomel and jalap purge.

May 4.—The pain of the head is very much relieved since the cupping; the bowels have been opened several times, and the stools are very dark and offensive, the tongue is clean; and the skin warm and moist. There is much less involuntary motion of her limbs. Fifteen grains of the carbonate of iron to be administered three times a day; a dose of aloes with soap to be given every night.

19. She has regained complete power over her muscles, and is in every respect well enough for Dr. Latham to discharge her tomorrow.

ABSCESS IN THE SIDE COMMUNICATING WITH THE LUNG.

In Successfully treated.

Elizabeth Inskipp, æt. 27, a married woman, was taken in to Mary's wards, May 21, under Dr. Latham. She states that she has always enjoyed excellent health until within the last three years, at the commencement of which period she contracted a syphilitic disease from her husband. Of this she was relieved by a course of medicine and again became healthy and robust. She continued so until about a year since, when her menstrual discharge was suppressed. Six weeks previous to her admittance she became the subject of a severe shivering fit accompanied by sickness and vomiting; these symptoms were succeeded by general fever, and cough attended by expectoration, and during the last two weeks she has observed the sputa to be streaked with blood, particularly after a severe fit of coughing; she has not been subject to affections of the lungs. Her countenance is slightly flushed; skin hot but moist; tongue furred in its centre; pulse 120, small, compressible, with slight jerks; bowels not open to-day; has no appetite; is very thristy; perspires freely at night; her cough is frequent and distressing, keeping her awake during the night; it is attended by copious expectoration of mucus, but no pain save at the right side during a deep inspiration; her catamedial flow has been arrested for two months. *Auscultation.*—There is more air admitted into the left than right lung, and of this the respiratory murmur is more perceptible at its lower portion than its upper; purcussion, however, produces no perceptible difference. Is ordered twelve leeches beneath the right clavicle.

23. Pain somewhat abated by the bleeding; cough still troublesome; watchful at nights; a calomel and jalap purge.

25. No perceptible change; the cough produces pain in the right side beneath the seventh rib.

27. *In statu quo.* A sixth of a grain of acetate of morphia and a drachm of oxymel of squills are ordered every six hours, and eight leeches to the painful side.

28. Is relieved from the pain; is much the same in other respects.

30. The point to which the leeches were applied now presents a small circumscribed tumour, very tender on pressure. Two bottles of soda water to be given daily.

June 6. The swelling in the side is less circumscribed, occupying a larger space; it is not quite so tender as it was on its first appearance; the pulse is 112 and feeble, and she perspires more at night.

9. She expectorated a considerable quantity of fluid this morning, and the swelling is apparently less; the tongue is dry and red; pulse feeble and small; the pain in the situation of the tumour is diminished. On auscultating the chest the respiration appears natural in the upper part of the right lung behind, but just below the scapula opposite the tumour, in front, a large crepitation is heard.

10. About a quarter of a pint of purulent matter was expectorated last night, but without its affording any apparent relief to the patient's feelings; her night had been very watchful and restless, more so than any since her admission; the tumour has increased in size. Oxymel of squills is prescribed. At two o'clock an assistant opened the tumour and forthwith a quantity of pus escaped, mixed with some bubbles of air.

18. The expectoration has greatly diminished; there is less pain in the side; the cough is better; tongue clean; pulse 90 and small; bowels regular; nights restless. The incision is kept open by a tent, but the discharge is very trifling. A blister is ordered to the chest.

22. Her bowels have been opened by an injection, by which she is much relieved. The pectoral symptoms continue to improve, though her pulse has increased to 112, and there is some heat of skin.

24. There is great defect of respiratory murmur observed at the back of the right lung occasionally; there is bronchial respiration and bronchophony; these symptoms likewise obtain on auscultation of the front of the thorax on the right side. Sulphate of magnesia with infusion of roses to be administered three times daily.

29. The cough and expectoration have ceased; the incision in her side has closed, and she is free from complaints.

July 3. There is much more vesicular breathing in the right lung, but still it admits less air than the left bronchial respiration and bronchophony remain at about the angle of the scapula. The dullest sounds are observable in the axilla and below the mammæ.

4. Is discharged cured.

SCIENTIFIC INTELLIGENCE

ON MINERALOGY, GEOLOGY, NATURAL HISTORY, PHYSICS, *AND THE ARTS.*

In order to meet the wishes of all classes of our subscribers we have added scientific intelligence in Europe up to August last. The following enumeration will shew that our Selections are not only highly interesting but important.

1st. Proceedings of the Ashmolean Society of Oxford, containing a communication on Mount Vesuvius and the nature of Volcanic Agency. Hussey on the standard and value of some ancient coins. An abstract of M. Couchy's theory of undulations, leading to an explanation of dispersion of light.—Brown of St. John's College on Halley's comet. An anonymous paper on the theory of volcanoes; 2d, application of hot air in the smelting of iron; 3d, action of muriate of ammonia upon some sulphates and upon silver; 4th, phosphate of quinine; 5th, Pectic acid; 6th, cases of poisoning in France; 8th, aldeide and a new acid; 9th, on the evaporation of charae; 10th, composition of goat fat; 11th, chemical nature of the Secretions; 12th, Esculic acid; and 13th, new yellow dye for wool.

ARTICLE I.

I.—PROCEEDINGS OF THE ASHMOLEAN SOCIETY OF OXFORD.

March 27, 1835.

DR. DAUBENY PROCEEDED TO DELIVER A COMMUNICATION ON VESUVIUS, AND THE NATURE OF VOLCANIC AGENCY.

He began by giving a brief account of the great eruption of Vesuvius which occurred in the month of August of last year, and which had been preceded by a series of ejections of stone and scoriæ from the crater, continuing at intervals ever since the year 1831.

These ejections had by degrees occasioned the formation of two conical hillocks within the area of the crater, the most considerable of which, just before the breaking out of the eruption of August, was more than 200 feet in height. Both the above, however, disappeared at an early period in the course of the eruption, having been swallowed up within the mountain during the course of a single night.

The lava which first burst forth took the direction of Portici, but this stream proceeded but a short way down the flanks of the mountain, owing to the breaking out of a more considerable current on the opposite side of the mountain.

This latter took the direction of the township of Ottayano, sweeping away in its course several small villages, and about 180 houses.

The lava when visited by Dr. Daubeny even so late as the end of December, or four months after the time of its emission, still possessed a high temperature, and was exhaling much steam, free muriatic acid, and sal-ammoniac; which latter appears from former observations to be a common product of volcanic action.

It remains to be explained, first, how this and other volatile matter can remain for so long a time pent up within the substance of the heated mass; secondly, how this salt was in the first instance generated in the bowels of the earth.

The first question may perhaps be answered by supposing the body, whilst within the mountain, to have been entangled in the lava, and there to have been confined by the enormous pressure of the superincumbent mass, so that when the eruption took place, the volatile matter did not at once find the means of escape, but continued in part locked up within the pores of the viscous mass.

The second question requires for its answer a consideration of the causes of volcanic action in general.

The president brought forward some facts and authorities bearing on the question whether Pompeii was destroyed by the eruption of A. D. 79.

That Herculaneum and Pompeii suffered from an *earthquake* in A. D. 62 or 63, appears from Tacitus Ann. XV. 22. and Seneca Nat. Quæst. VI. 1.

Pliny in mentioning the eruption says nothing of these cities. VI. 16, 20.

Tacitus speaks of *some* cities being destroyed during the reign of Titus A. D. 79—81.

Dio Cassius (in A. D. 229) expressly says, that Herculaneum and Pompeii were destroyed by an eruption in the reign of Titus (LXVI. 23.)

From Statius (A. D. 95) it would seem they were not *wholly* destroyed. Florus (A. D. 116—120) mentions them as still existing.

M. Aurelius, however, mentions them as entirely destroyed before A. D. 161 (IV. 18); as also Tertullian (Apol. 40) in A. D. 200.

Some further discussion took place: and Mr. Twiss mentioned, as a well ascertained fact, that Stromboli is always active when the Sirocco blows, but at no other time.

READ BY THE REV. R. HUSSEY ON THE STANDARD AND VALUE OF SOME ANCIENT COINS.

May 15*th*.

After some account of the experiments hitherto made for finding the standard of the silver of the ancient currencies, the results of assays of some coins were reported, and the value of them calculated. From the analysis of a quanarius of Rome in the time of the consulship, the value of the denarius of 60 grains weight, compared with our silver currency, was computed to be nearly $8\frac{3}{4}d$. The Attic drachma of $66\frac{1}{2}$ grains weight was

computed, from the assay of three drachmæ of different ages, to have been from $9\frac{1}{2}d.$ to $9\frac{3}{4}.d$ in our silver; and that of Corinth, or Syracuse, from the analysis of a didrachma of that coinage, to have been about equal to the lowest value of the Attic. The Attic currency was shown to have been at one time of a little lower standard than it was afterwards raised to, and then again to have been much depreciated, till it was less fine than the average standard of Greek silver, and early Roman. And it was inferred that, although the ancient money was generally of a very high standard of fineness, the alloy found in it was purposely mixed, and not owing only to want of skill in refining.

THEORY OF UNDULATIONS.

MR. POWELL, ON PRESENTING A COPY OF HIS PAPER FROM THE JOURNAL OF SCIENCE, ENTITLED "AN ABSTRACT OF M. CAUCHY'S THEORY OF UNDULATIONS, LEADING TO AN EXPLANATION OF THE DISPERSION OF LIGHT, &c.—

Made a few remarks on the nature of the results he had recently obtained, and which will appear in the next part of the Philos. Transactions. In a former communication (see Records of General Science, I. 463) he had explained generally the state of the question at issue; and now proceeded more particularly to refer to the nature of the spectra formed in the very remarkable experiment of M. Fraunhofer, by covering the object glass of a telescope with a fine grating of parallel threads, and viewing through it a narrow line of light parallel to the threads. The appearance is that of the image of the line colourless in the centre, and a spectrum or coloured image of it on each side. In these spectra the colours are perfectly pure. They are produced simply by the interferences of the rays passing the grating, which give bright and dark spaces, at different intervals, for the different rays; and at such intervals as allows the points of brightness for the red, yellow, green, &c. to succeed one another in such a manner as to give a very complete insulation of each coloured ray in a state of great purity. Professor Airy considers this as the natural, or standard, spectrum; from which those formed by prismatic refraction deviate in different ways, according to their peculiarities of dispersive character. The intervals between successive definite rays in the interference spectrum are precisely proportional to the differences of the lengths of their waves, or periods.

It is by means of the data derived from these spectra by M. Fraunhofer, as compared with those of the refraction-spectra, that the results of the author's calculations have been obtained. By his extremely perfect apparatus M. Fraunhofer was able to obtain these spectra in such a state of purity that the dark lines were visible. Thus, by accurate micrometric measurement, he determined the lengths of the waves for each of the rays defined by the dark lines. These values are given in Sir J. Herschel's treatise on Light, art. 751.

M. Cauchy's theory gives rise to the establishment of a relation between the length of a wave and the velocity of its propagation. On the ordinary theory no such relation subsists: and by consequence, rays whose waves are of all lengths ought to be refracted alike. Thus M. Cauchy's theory assigns an explanation of the unequal refrangibility. From his memoirs, the author has deduced a formula expressing the precise nature of this relation. On any theory of undulations the velocity is the reciprocal of the refractive index. In this point of view the formula deduced from the theory (which ought to give the value of the refractive index (μ) for a ray whose period or wave is (λ) involving certain constant quantities dependent on the nature of the prismatic medium, H, r, n, and π the semi-circumference) is this:

$$\frac{1}{\mu} = H \left\{ \frac{\sin. \left(\frac{\pi r n}{\lambda} \right)}{\left(\frac{\pi n}{\lambda} \right)} \right\}$$

By substituting Fraunhofer's values of λ from the interference spectra, the values of μ for the same rays were calculated, and compared with the refractive indices determined also with the utmost accuracy by Fraunhofer for the same rays, in prisms of ten different substances; viz., four kinds of flint glass, three of crown glass, water, solution of potash, and oil of turpentine. These calculations gave an accordance in every instance exact to three places of decimals. And this will be allowed to afford a complete verification of the theory for all the cases examined. These in fact constitute all the instances in which exact determinations have yet been made. The author is therefore now engaged in endeavouring to extend the series to a larger range of media. For this purpose it will be necessary to form prisms of a variety of solid and liquid media, and considerable difficulty may arise from not being able to get them sufficiently pure and homogeneous to shew the lines.

Again, the calculations present considerable difficulty; especially in finding a series of ares, which shall fulfil the twofold condition of being themselves in the ratio of the values of λ, while they are to their sines as those of μ. This problem has been facilitated by a remarkable elegant geometrical construction, communicated to the author by the Rev. A. Neate, M. A., of Trinity College.

Even without reference to the theory of undulations, any formula, were it but empirical, would in the present stage of the inquiry be valuable, if it afforded an accurate representation of the facts. In this point of view, then, the formula here employed may be regarded as not unimportant, if it merely express the numerical law of dispersion for the substances examined.

ON HALLEY'S COMET.

READ BY THE REV. R. W. BROWNE, M. A., ST. JOHN'S COLLEGE.

May 29th, 1835.

The following are the recorded appearances of this comet. We repeat this because some of the figures in our report of Dr. Lardner's lecture are inaccurately printed.

1. B. C. 130, birth of Mithridates.
2. A. D. 323, after six revolutions.
3. ,, 379, see Lubienietski in Theatr. Com.
4. ,, 550, Rome taken by Totila the Goth.
5. ,, 1005, no remarkable event. After five revolutions.
6. ,, 1230, idem. After three revolutions.
7. ,, 1305, the plague.
8. ,, 1456, Pope Calixtus II. Mahomet II. took Constantinople. According to theory as well as history the magnitude and brilliance of the comet were then at their maximum
9. ,, 1531, observed by Apian of Ingoldstadt.
10. ,, 1607, observed by Kepler and Longomontanus, Sept. 26.
11. ,, 1682, observed by Halley, who predicted its return in 1758.
12. ,, 1758, returned as predicted, and discovered by Palitzch, December 25. Observed by Messier and De L'Isle in January, 1259. Arrived at its perihelion, March, 1759.

A SHORT ACCOUNT OF THE PAPYRI.

FROM HERCULANEUM, PRESERVED IN THE MUSEUM AT NAPLES, AND OF THE METHOD OF UNROLLING THEM.

They were first discovered in 1753, and are now deposited in the Museo Borbonico. Being rolled up in scrolls, they have the appearance of pieces of charcoal: and being piled up, it was only by accident that attention was directed to them, when Greek and Latin characters were seen upon them. They are found reduced to a scorched state, not more substantial than tinder. The difficulty of unrolling them has been overcome by attaching to the back some gold beater's skin by a strong gum: a small portion of this (when fixed) is then gradually unrolled by bands attached to it, the scroll resting in a semi-cylindrical through lined with cotton. The process can only go on at the rate of about one inch per day. Several volumes have been restored and published. They appear to be chiefly works of Epicurean philosophy. On the authority of one of them the Economics of Aristotle is decidedly ascribed to Theophrastus. The majority are Greek. One contains a review of the Iliad, in which the heroes of Homer are considered as all allegorical. The Latin works are on a differently prepared and thicker papyrus. The name of the author never occurs till the end; hence the impossibility of ascertaining what they are till completely unrolled.

Some remarks were made on the share which Sir H. Davy had in suggesting the plan of unrolling, and conducting the whole research, as described in his paper in the Philos. Trans. 1821.

ON THE THEORY OF VOLCANOES.

June 12th.

The author's principal object in this paper is to support the theory advanced by the late Dr. E. D. Clarke.

Dr. Daubeny made some remarks on this paper, which he considered to accord with his own theory as far as it goes. But it does not proceed to account for the evolution of hydrogen, which he explains by the action of water on the metallic bases of the earths. The part of Dr. Clarke's view most open to doubt is the degree of intensity of fusion, of which no sufficient evidence is adduced.

Dr. Daubeny then referred to the subject of his own paper on the absorption, &c. of plants. He had tried experiments in which plants were deprived as much as possible of access to calcareous matter, in which case the quantity of it found in their ashes was diminished, but still some appeared. This might be derived from the water, or even the atmosphere. He stated that when strontian was substituted for lime, the same deficiency of calcareous matter was observed in the plant, shewing that vegetables exercise a kind of selection as to the earthy matter they secrete.

Analogous experiments were mentioned on hens, who, when deprived of access to any other earth except strontian, after a time, began to lay eggs destitute of an earthy shell.

The origin of phosphoric acid was also noticed: this may be suspected to be an organic product.

Mr. Twiss made some remarks on the papyri, especially with regard to the claims of the Padre Anto°. Piaggio to inventing the mode of unrolling them. These he considered well founded, and that Sir H. Davy only improved upon the process by suggesting the use of alcohol to soften the rolls. They were sometimes soaked in ether. The ink is made of carbon mixed with some glutinous matter; hence probably the ammonia, sometimes found to be present. It is a question whether the papyri were actually carbonized by the action of fire. Sir H. Davy supposed it the effect of hot water.

Dr. Daubeny observed that long continued moisture alone would suffice to carbonize and blacken a vegetable substance.

Mr. Powell made some remarks on the recent researches of M. Melloni on radiant heat, of the second portion of whose Memoir he has recently received a copy. He referred more particularly to one point, viz. the repetition of his own experiment by Melloni, with his extremely delicate apparatus, and fully verifying his results. But M. Melloni appears to view the subject under a different aspect, and to adopt a different theory. This renders the confirmation of the *fact* the more satisfactory.

If the experiment be substantial, it appears to the author that his *conclusion* follows by necessary consequence. M. Melloni adopts the theory that the heat by *passing through*

the glass screen acquires a new property, or new relation to the surfaces of bodies on which it acts; an hypothesis which is at variance with all analogy.

In the Philos. Trans. 1825, the author's paper appeared, in which he maintained (in opposition to the theory of De La Roche) that from a luminous hot body there emanate at the same time two distinct sorts, or causes, of heat, distinguished by different properties.

This was evinced by experiments, in which the ratio of the effects on two thermometers, one coated with a *black*, the other with a *white* substance, (but very absorptive for *simple* heat,) was observed first with, and then without the interposition of a glass screen. With the screen the absolute effects were of course diminished: but the remarkable circumstance was, they were in *a different ratio*.

Of the accuracy of this experiment, it would seem that some doubt must have existed in the minds of those writers who have since treated the subject, since they either omit to refer to it, or, what is more extraordinary, adopt it along with the theory which it contradicts.

It is possible that the nature of the reasoning may have been misunderstood, from having been too briefly stated. It may perhaps appear more distinctly if repeated thus algebraically:—

Let the effects of a luminous hot body on the black and white thermometers respectively be,

without a screen .... b w
with a glass screen .. b^1 w^1,

Now, by observation, we know the ratios in these two cases, and we always find the

ratio $\frac{b^1}{w} > \frac{b}{w}$

Hence, we know also the ratio of the portion of the effects intercepted which is $\frac{b-b^1}{w-w^1}$

By the principles of ratio we must therefore have $\frac{b^1}{w^1} > \frac{b-b^1}{w-w^1}$

Or, in other words, the portion of the heat which passes the screen affects the black and white surfaces in a *different ratio* from that portion which is intercepted. The two portions are thus clearly distinguished by different properties. Or, in other words, the whole effect is due to *two distinct causes* acting simultaneously; in which the transmissibility or otherwise is invariably accompanied by the particular relation to surfaces. The one species agreeing in these properties with the solar rays, the other with the heat from nonluminous sources.

M. Melloni failed, like the author, in his attempts to polarize simple heat. But many of his experiments, and especially this, have been since repeated by Prof. Forbes of Edinburgh, who has succeeded in establishing the polarization, both by transmission through tourmaline and piles of mica, and by reflection, most decisively in the heat from luminous sources, and from non-luminous also; though he allows that in this last case the effect was extremely small. He has also followed out the subject into numerous important consequences. (See Edinb. Trans. vol. xiii.) The distinction deduced from the experiments of the author (above referred to) must however affect the entire series of results relative both to polarization and transmission.

II.—APPLICATION OF HOT AIR IN THE SMELTING OF IRON.

This important improvement is now generally appreciated. At the smelting furnace of Plons in Wurtemberg, before employing the hot air the consumption was 100 kils (2 cwts.) of ore, 40 cubic feet (48½) of charcoal, and the produce under the old system was 3,000 kils, (3·53 tons) while with the hot air it is on an average 3,750 kils, (4·48 tons.) At Königsbronn, in the same kingdom, to obtain 108 livres (1·17 cwts.) of bar iron with cold air, it required 20 cubic feet (24·2 Eng. c. f.) and with hot air only 17 cubic feet, (20½). (*Ann. des Mines*, vi. 464.

The temperature to which the air is raised, is however much inferior to the lowest standard in this country, for at Plons, according to Berthier, the temperature of the heated air is only 150° or 200° (302°, 392° F.) which at the Clyde iron works, the usual test of the standard temperature is the melting point of lead, or 606° F. This is the lowest point to which the heat is allowed to fall, for it may in general be much higher. Yet even with this disadvantage in Germany, we see that the expenditure of the combustible matter has been reduced one-fourth, with a sensible increase of the product. The effect of the heated air has commonly been attributed to the absence of the cooling power, which was exercised by the cold air on its being introduced in contact with the heated contents of the furnace. Berthier denies that this is the mode in which it operates. He thinks that the phenomena which result from the employment of hot air proceed from the greater activity of the combustion in the furnace, than when the air has not been previously heated, that is to say, that with the same weight of air there is more oxygen absorbed in the first case than in the second. If this opinion is correct, it follows, that less hot air will be required than of cold air for the combustion of an equal quantity of charcoal in the furnace, and that the air which proceeds from the latter being possessed of little oxygen cannot support combustion. Now, the exhaustion of the oxygen in the air is a point of essential importance, when we wish to obtain a very strong heat, for the azote of the air only assists in producing a loss of the portion of the heat developed by combustion. Hence, the less air that is consumed the less does this cause of cooling operate. Besides, the affinity of gas for solid substances is increased by the heating of the gas.

It has been said that effects similar to those produced by heated air, may be obtained by the employment of cold air sufficiently compressed, or what would be extremely powerful, the use of hot air compressed to such a degree as experience might point out.

III.—ACTION OF MURIATE OF AMMONIA UPON SOME SULPHATES, AND UPON SILVER.

M. Vogel has found that the sulphates of iron, copper, and manganese, are partly decomposed by a solution of sal-ammoniac. This action produces two double salts, the one which crystallizes first is the sulphate of ammonia and metal, the other more soluble is the muriate of ammonia and metal.

2. Sulphate of lime is more soluble in water charged with muriate of ammonia than in pure water, but it is not decomposed by this salt, and the sulphate of barytes is not soluble in a solution of this salt.

3. Sulphate of lead is completely decomposed by a solution of sal-ammoniac, from which result muriate of lead and sulphate of ammonia.

4. A solusion of sal-ammoniac acts upon silver with the assistance of the air and dissolves it.

5. A concentrated solution of sal-ammoniac may dissolve a notable quantity of chloride of silver, of which the greater part is precipitated by water.

6. Chloride of silver is still more soluble in a boiling solution of sal-ammoniac.

7. The vapour of sal-ammoniac carried over pure silver heated to the temperature at which glass softens, disengages ammoniacal gas.—(*Journ. de Pharm.* xx. 514.)

IV.—PHOSPHATE OF QUININE.

Phosphoric acid bearing a nearer relation to the animal economy than sulphuric acid, Professor Harles proposes to substitute the phosphate for the sulphate of quinine in medicine (*Pharm. Zeit.*) The method which he described for forming it is considered imperfect by Winkler, who recommends the following:—He first prepares a muriate of quinine, by decomposing the sulphate with chloride of barium; 1,200 parts of the latter are triturated with 480 parts of crystallized sulphate of quinine. This mixture is then added to 8 parts by weight of distilled water. The liquid is filtered and the residue washed. The liquors are united and diluted with 4 times their weight of distilled water. A solution of phosphate of ammonia is then carefully added. The precipitate should be washed with cold distilled water and dried at a gentle heat; an excess of phosphate of ammonia should be avoided, because it dissolves the phosphate of quinine; 60 parts of muriate of quinine afford 46 of phosphate. It is a fine crystallized powder, very light, white, and very bitter. When a solution of it in boiling water is cooled, it is deposited in silky needles. It is soluble in 480 parts of cold and 140 of boiling water. It consists of quinine 87·03, phosphoric acid 12·97. Winkler has since stated that it may be formed by the mutual action of sulphate of quinine and sulphate of ammonia.—(*Buchner's Reporter and Journ. de Chim. Medic.* i. 368.

V.—PECTIC ACID.

M. Simonin of Nancy has given an improved method of preparing this acid. The pectine and jelly which are formed by the mixture of the juice of the gooseberries with that of sour cherries, is to be separated from the liquid part and well washed, to separate the colouring matter. It is then boiled with a small quantity of weak caustic potash. The liquid which contains pectate of potash is then passed through a cloth filter. The pectate is decomposed by agitation with chloride of lime. Decolouration quickly takes place, and white flocks of pectate of lime separate. These are collected on a filter and treated with water acidulated with muriatic acid, which decomposes it and dissolves the lime. The pectic acid is allowed to drop upon a cloth, and is well washed with water in order to take up all the muriate of lime and acid which it retains. In this state pectic acid is almost colourless, in the form of a compact jelly. It combines with the greatest ease with alkalies. A few drops of ammonia liquify it and give it a brown colour. If we wish to prepare pectate of ammonia, a sufficient quantity of this alkali is added to give it the consistence of syrup, which is filtered. It is then dried in porcelain vessels, where it separates into brown glassy plates. It is soluble in water from which alcohol and sugar separate the pectic acid in the form of a jelly.

It is necessary in washing the pectic acid to employ water containing neither lime nor calcareous salts, because the pressure of the smallest portion of these substances will occasion the production of pectate of lime, and prevent success. Two hundred pounds weight of red gooseberries afford nearly 8 ounces of pectate of ammonia, giving a gelatinous consistence to 500 times its weight of water.—(*Journ. de Pharm.* xx.)

VI.—CASES OF POISONING IN FRANCE.

The number of cases of poisoning in relation to the poisons employed, are as follows, in the space of 7 years:

1. Of 273 persons accused of the crime of poisoning, 171 have been acquitted and 102 condemned. Of 94 cases reported in the *Gazette des Tribunaux*, 54 were produced by arsenious acid, 7 verdigris, 5 powder of cantharides, 5 corrosive sublimate, 4 nux vomica, 3 fly powder, consisting of impure pulverized arsenic called also *cobolt*, 2 nitric acid, and single cases by sulphuret of arsenic, emetic, opium, acetate of lead, ceruse, sulphuric acid, sulphate of zinc, mercurial ointment, and 5 by undescribed poisons.

2. The causes which produced the crimes have been interested motives in 28 cases, in 24 lewdness, 15 revenge, 10 jealousy, 6 madness. Of 81 cases the poison was administered in 34 cases in soup, 8 in milk, 7 in flour, 7 in wine, 8 in bread, 5 in pies, 4 in chocolate, 4 in medicines, 2 immediately by the mouth, 2 in coffee, 1 in cyder, 1 in poultry.

3. Of 94 cases, 60 of the accused persons were males, 34 females.

In order to diminish the number of these cases, or if possible to destroy the practice of poisoning altogether, it has been proposed by M. Brard to colour arsenic with Prussian blue in the proportion of 10 per cent. The propriety of this method is supported by the fact, that by far the majority of cases of poisoning are produced by colourless poisons, arsenic in particular, and several persons have been prevented from suffering death by poison, in consequence of coloured substances having been employed for that purpose.

VIII.—ALDEIDE, AND A NEW ACID.

Liebig has discovered a new substance, which he terms *Aldeide*; its composition being that of alcohol deprived of its water. It is obtained by distilling alcohol or starch with anhydrous sulphuric acid. With nitrate of silver a curious action takes place; the metal is deposited on the sides of the glass vessel in which the experiment is made, and covers them with a coating of silver.

The same chemist has also discovered a new acid, agreeing in its composition, with formic acid, with the addition of 2 atoms of water. It is obtained by drying the formate of lead, and decomposing it by a current of sulphuretted hydrogen.

It is a colourless liquid, congealing at 32°, and boiling at 212°. It acts with prodigious energy on the animal textures, much more powerfully than nitric acid. It destroys the skin like a hot iron; its smell is very strong when it contains an atom of water: it then boils at 226°, and does not congeal at 32°.—*Journal de Chimie Medic.* i. 388, 2*nd Ser.*

IX.—ON THE EVAPORATION OF CHARAE.

Those places in which *Charae* grow, are well known to fill the surrounding air, in summer, with a very disagreeable odour. Pessarini and Savi ascribe the cause to a volatile azotic principle, which they term *Puterin*. They steeped a portion of these plants in water, and allowed them to decay. A decomposition ensued, by which acetic acid was formed, which dissolved the outer crust of carbonate of lime, and disengaged carbonic acid, which remaining in the atmosphere, formed a pellicle on the surface of the water. In the course of a short time the smell became so strong that it affected with headache persons subjected to its influence. The plants were gradually converted into a black mass, consisting of threads and fine charcoal. During the last putrefactive stage, the water was completely stinking, blackish and slimy, and possessed on its surface a pellicle emitting a very disagreeable smell.

Savi and Pessarini considered that the *Puterin* is one of the principal causes of the Malaria in Italy, and that this matter, by its deteriorating action in the heat of summer, deprives the plants of their natural colour. When it is considered, however, that the *charae*, in their living state, disengage chlorine, it is obvious that further experiments are necessary, and that the explanation given is not satisfactory, because the chlorine of growing plants would operate by purifying the air deteriorated by the decaying ones.—*Brandes' Pharm. Zeit.* xi. 169, 183.

X.—COMPOSITION OF GOAT FAT.

The experiments of Chevreul and others, led to the conclusion that all vegetable and animal fixed oils were precisely similarly constituted. When they are treated, however, separately, with ether, distinctions can readily be recognized. Thus, 1 part olive oil at 59° dissolves in 1½ times its weight of ether, while it requires 60 parts of the same fluid to dissolve 1 part of mutton fat. Le Canu took advantage of this fact, and shewed that animal oils contain a principle hitherto undescribed: viz. *Margarine*. Dr. Joss of Vienna,* following up the suggestion of Le Canu, has analyzed goat fat, and has found it to consist of three principles, according to the following table:—

Elaine, soluble in cold alcohol of .815	5.42	(like olive oil)
Margarine, soluble in boiling, ditto precipitating on cooling.....	25.83	(yellowish)
Stearine, insoluble in boiling alcohol of ·815...	68.75	(white)
	100.00	

XI.—CHEMICAL NATURE OF THE SECRETIONS.

There are three principal membranes which furnish secretions in the human body. These are, the skin, the mucous, and serous membranes.

1. The skin which covers the body externally, affords, by transpiration, the sweat, which, in the healthy state, is acid. This acidity is derived from the presence of acetic acid. Carbonic acid also is transpired.

Dr. Donné has found, however, (*Ann. de Chim.* lvii. 398) that the sweat transpired between the toes, under the arm-pits, and around the parts of generation, is alkaline. The skin of the dog and cat, which do not perspire, is sensibly acid; while, in the buck rabbit it is alkaline, or neutral, and in the horse strongly alkaline. In these animals there are analogous differences in the other secretions. For, the urine, which is acid in man, is acid in the dog and cat, but alkaline in the horse and rabbit. The remarkable facts which Dr. Donné has observed, and which deserves attention, is that the sweat, during disease in the human subject, becomes often neutral, and even completely alkaline. He has principally noticed this modification in chronic diseases, and has obtained, in these cases, good results from the employment of the vapour bath.

2. Mucous membranes.—Under this division may be included the saliva, which in man, while healthy, is decidedly alkaline.

* Erdmann und Schweigger-Seidel's Journal fur praktische Chemie, iv. 369.

This state is generally ascribed to the presence of lactates and muriate of soda; the saliva also when evaporated, and the residue crystallized, appears to contain muriate of ammonia. It has been said that the saliva is alkaline during mastication, and that it becomes neutral after eating. Donné denies the accuracy of the latter statement, and affirms that it always in the healthy state turns reddened turnsol paper to a blue colour. In all those animals which Donné has examined, he has found the saliva alkaline.

He has observed acid in a great number of cases of gastritis or inflammation of the stomach, which has been verified by the application of tests, and afterwards by inspection of the stomach after death. He has seen several instances in which the saliva acquired its natural or alkaline re-action by antiphlogistic treatment, and has never observed an acid re-action when the patient possessed a good appetite and unimpared digestion.

The mucus of the œsophagus as far as the cardiac orifice of the stomach appears to be neutral, at least during digestion. The mucous membrane of the stomach, it has been concluded, from the researches of Prout, Gmelin, and Tiedemann, secretes an acid fluid.

It is certain that if we examine the liquid contained in the stomach, after all the contents of that viscus have been removed and its parietes well washed, we find it strongly acid. This has been explained by Dr. Thomas Thomson, on the idea that common salt is decomposed in the blood by the nerves of the stomach, and that the free acid thus engendered is transmitted to the stomach. The whole surface of the stomach affords an acid re-action. At the beginning of the duodenum, an alkaline re-action is evinced and appears through the whole of this inferior portion of the digestive canal. This has been accounted for by supposing that the picromel acts as a base to the muriatic acid and forms a salt. Donné, however, considers that the mucous surfaces secrete an acid liquid. The liquid secreted by the pancreas was found sometimes acid and sometimes alkaline by Tiedemann and Gmelin. Yet by Leuret and Lassaigne, it was found to possess all the characters of saliva.

The bile is alkaline. The mucous membrane of the urethra, prepuce and gland, afford an alkaline mucus. The nasal and bronchial mucus present the same characters.

3. The serous membranes, as the peritoneum, the pleura, arachnoid and synovial membranes, secrete an alkaline liquid, containing muriate of soda, and corresponding with the serum of the blood.

This liquid in some cases becomes acid. The tears and the humors of the eye are alkaline. From these facts it appears that we may consider the human body as existing between two membranes, the exterior one acid and the interior one alkaline. If we put one of the poles of a galvanometer in contact with the mouth (the negative pole) and the other with the skin, very decided currents appear, and the needle deviates 15, 20, or 30 degrees.

Similar effects are produced between other organs in opposite states with regard to chemical composition, but no currents were observed between corresponding organs as between the kidnies, or between different portions of the intestines, or between the liver and pancreas, &c.

Donné ascribes these phenomena to the chemical action which one heterogeneous part exerts upon another. Matteucci denies that these phenomena can be produced after death, and concludes, therefore, that they are due to a vital and not to a chemical action, and draws inferences which we have already noticed (Records, I. 102.)

Donné has repeated and varied his experiments, and affirms, that after death the effects are the same as during life, that the head may be cut off, the spinal cord destroyed, and yet the currents may be demonstrated, nay, even that if the stomach and liver be separated from the body and taken in the hand, the needle will undergo a deviation when the poles of the galvanometer are inserted in these organs. The intensity of the action after death is diminished, it is true, but this is sufficiently explained by the slowness with which the secreting action of the organs goes on.

XII.—ESCULIC ACID.

When the Esculus hippocastanum or horse chesnut is pulverized and treated with alcohol, a yellow viscid matter is obtained by evaporation. This substance resembles the *saponine*, which M. Bussy extracted from the *Saponaria*. If this principle be treated with acids at the temperature 212°, a white matter is precipitated which is *esculic acid*. *Saponine* by the action of potash, is partly converted into *esculate of potash*. Esculic acid is insoluble in water, soluble in alcohol, and not in nitric acid, by which it is transformed into a yellow rosin which dissolves in potash. Esculic acid consists of carbon 58·19 hydrogen 8·27, oxygen 34·54. The esculates of potash, soda, and ammonia, are too soluble in ammonia to crystallize. Esculic acid was discovered by M. Fremy.—*Dumas Traite de Chim.* v. 296.

XIII.—NEW YELLOW DYE FOR WOOL.*

Gregoire Sella recommends the *Rhus radicans* as an excellent dye. For eight parts of wool take of *Rhus radicans*, previously boiled 8 parts, alum 1 part, cream of tartar 1 part, muriatic acid solution (consisting of muriatic acid 4 parts, pure tin $\frac{3}{4}$ or 1 part,) 1 part. Boil them for $\frac{3}{4}$ of an hour; a fine yellow colour is produced. If the dried plant is used, a pale yellow or hazel colour is obtained. This colour resists soap and the sun as well as the other yellow colours. It acquires greater stability if allowed to remain 12 hours in the vat.

* Bibliotheque Universelle, Feb. 8, 1835.

MISCELLANEOUS LITERARY NOTICES.

BELGIUM.

The Royal commission for collecting the Chronicles and History of Belgium held a meeting on the 3d of April, at which Mr Gachard read a very interesting account relative to the Bollandists, and to their great work, the *Acta Sanctorum*, which was left incomplete. The printing of the Chronicles of Belgium, which are to be devided into three series, will immediately commence. Three volumes of each series are to be printed at the same time.

Mr. Serrure has just made a discovery which is highly interesting to the lovers of the Flemish language. He has found, on the parchment cover of a book, about seventy verses of the Nibelung enlied in Flemish. The importance of this famous poem, which has for the last twenty years engaged the attention of the German literati, renders the discovery both interesting and honourable, since it proves how far advanced the Netherlands were in literature in the twelfth and thirteenth centuries.

FRANCE.

There never was at any former period such ardour in France for the publication of the sources of the national history as at this moment. The government has successively taken up again the collections commenced before the Revolution, by the Benedictines, and the Academy of Inscriptions, the Cartularia of Brequigny, the writers of the Crusades, the *Historiens des Gaules et de la France*, and the Literary History of France. To these are to be added the colossal enterprize of publishing the Documents of French History, which the two commissions, appointed within a few years, have commenced; the foundation of the Society for French History, which has begun two series, and lastly, many private speculations, the object of which is to publish inedited MSS. Should this zeal continue for twenty or thirty years, the only difficulty of the historian will be to read this immense mass of documents. It is to be regretted that, all these plans being independent of each other, there will be numerous repetitions of the same documents; the collection of the *Historiens des Gaules et de la France* will frequently come into contact with the other collection, and the *Histoire Littérairi*, with the two last collections. So long ago as 1762 the French government conceived the idea of a work similar to Rymer's Fœdera. Three volumes, in folio, of a catalogue by Brequigny, were printed in 1769, 1775, 1782, and four-fifths of the fourth volume was printed before the commencement of the French revolution. But a decree of the 14th August, 1791, suspended all the literary undertakings commenced by the government, and confiscated the sum in the funds, producing 45,000 francs per annum, which had been allotted to the publication. The Directory, indeed, ordered in the year iv., and the Consulate in the year xi., that the publication should be renewed, but as no money was granted nothing was done. However, in 1832, funds were assigned to complete Brequigny's Catalogue. All that portion of the fourth volume which was printed had been lost or destroyed during the Revolution, so that it was necessary to do it over again. The fourth volume is nearly ready for publication, and the fifth is in great forwardness. This, however, is but a preliminary work, and the great work, which is to contain the documents themselves, is scarcely begun. The Academy, however, has now resolved to proceed in earnest, and by the advice of M. Pardessus, in a report on the subject to the Academy of Inscriptions, has made some judicious alterations in the original plan. But still, as is above remarked, the want of concert in the direction of the several collections will cause numerous repetitions.

At the end of February last there were in Paris 81 printing-offices, 155 lithographic printers, 32 copper-plate printers, 25 letter-founders, 8 press-makers, 9 printing-ink manufactures, and 95 engravers and punch-cutters.

In the 84 departments of the kingdom, including Corsica, there are 258 newspapers, consequently on an average three to each department. But three departments,—the Upper Alps, the Lower Alps, and the Upper Pyrenees,—have no newspaper at all. Out of these 258 papers, 101 are exclusively devoted to local intelligence, and 4 are confined to literary matters; so that the number of political journals is no more than 153.

GERMANY.

The Leipzig Easter Fair Catalogue comprehends in the whole 4193 articles. Among these are 426 works in the press, and 3767 ready for delivery; and among the latter are 103 atlasses or single maps of the earth or heavens. There are consequently 3664 printed works ready for delivery: 320 of these are in living foreign languages, 202 in the ancient languages, and 3142 German books, of which 166 are novels, and 49 plays, leaving 2947 books and pamphlets of a scientific or miscellaneous nature. The 3767 articles ready for publication have been produced by 487 houses, which gives an average of scarcely eight to each. Those whose publications amount to twenty or more are the following:—Basse, 74; Reimer, 71; Manz, 50; Eevrault, 44, Metzler, 42; Cotta, 41; Brockhaus 39; Reitzel, 36; Hoffmann and Campe, 35; Haase, 35; Hahn, 34; Schlosser, 31; Arnold and Steinkopf, each 29; Gödsche, 28; Perthes and Besser, 27; Duncker and Humblot, and Francy, each 27; Friedrich Floischer, and Gerold and Mayer, each 26; Barth, 25; Baumgärtner, Hinrichs, Leske and Voigt, each

24: Bëdeker and Schubothe, each 23; Vetter and Rostosky, and Weldman, each 22; Brodhag, Herold, Kollman in Leipzig, and Max and Co. each 21; Voss, Friese, Hammerich, Kollman in Augsburg, and Löflund, each 20.

The total number of articles produced since 1831 have amounted as follows:—in 1831 to 5508; in 1832 to 6122; in 1833 to 5653; and in 1834 to 6074 articles. The publications of the last year, under their different classes, exhibit the following proportions:—

1. Belles-Letter and Fine Arts, 1327 articles, among which there are 358 novels, 173 plays, and 109 relating to music. 2. Divinity, 1141 articles, including 550 sermons and books of devotion. 3. History, 880 articles, including 212 biographies and 87 on antiquities. 4. Politics and Political Economy, 777 articles. 5. Medicine, 639 articles, including 81 on chemistry and pharmacy, 78 on the homöeopathic system, and 42 on veterinary medicine. 6. Philology, 597 articles. 7. The Natural Sciences, 400 articles. 8. Geography and Travels, 385 articles. 9. Technology, 338 articles. 10. Works for Youth, among which is the 126th edition of Wilmsen's Kinderfreund. 11. Jurisprudence, 285 articles. 12. Philosophy and Literature, 269 articles. 13. Domestic and Rural Economy, 237 articles. 14. Education, 217 articles. 15. Mathematical Sciences, 212 articles. 16. Military Science and Equitation, 187 articles. 17. Commerce and Mining, 175 articles. 18. Forest and the Chace, 55 articles. 19. Miscellaneous Works 200.

Hoffmann of Stuttgart has announced a popular System of Minerology and Geology, by Dr. E. F. Glocker, director of the minerological cabinet of the University of Breslau.

PORTUGAL.

Accounts from Portugal state that, with the books found in the suppressed convents, a library of 300,000 volumes had been formed in the convent of San Francisco.

PRUSSIA.

The late learned Baron William von Humboldt has ordered in his last will, dated January 20, 1832, that all the ample philological materials which he had collected, and which at present are not in a fit state for the press, shall be the property of the Royal Library; on condition that men of learning, who devote themselves to any branch of the study of philology, shall be at full liberty to make use of them in their literary labour. He has also bequeathed to the Royal Library all his books and writings, many of which are very rare, relative to foreign languages. These works are enumerated in a separate catalogue. As the deceased Baron had long intended to leave this part of his ample collections to the Royal Library, he had taken the especial care to add to it everything upon the subject which the Library did not already possess.

Among the Manuscripts left by this eminent scholar are two important works designed for publication; the one, "On the Languages of the Indian Archipelago derived from the Sanskrit;" and the other, "On the Origin and the Philosophy of languages in general." This interesting intelligence has been communicated in a letter from Alexander von Humboldt to M. Arago at Paris.

RUSSIA.

The Imperial Academy of Sciences at Petersburg, has awarded the first Demidoff prize for 1834 to a work of Mr. Sidonski, entitled "Introduction to the Science of Philosophy," in which the author shows himself thoroughly acquainted with the German Philosophical Schools. The second prize was adjudged to the well known Father Hyacinthe, for his "Historical Account of the Calmucks, from the thirteenth century to the present time."

SWEDEN.

This country may now boast of possessing a history worthy of itself. This is the "History of the Swedish Nation, from the most ancient times to the present period," by Strinnholm. This work is calculated to interest not only the historian or antiquary, but the lovers of history in general, as well as those who take an interest in adventures, and in the manners and customs of ancient times. A young writer, named Cronholm, has furnished valuable contributions to the early history of Sweden, in detached Essays, such as the "Waringer and Ancient Northern Reminiscences." These compositions, which are the result of long and assiduous investigation, are written in an elevated and singularly pleasing style, and bear indisputable marks of great ability. The collections of Swedish documents and records are of much importance to the history of Sweden, especially the "*Scriptores rerum Suecicarum*;" the "Memoirs appertaining to to the History of Scandinavia;" the Swedish Diplomatrium of Liljegren;" and the "documents collected from the Archives of the Family of La Gardie," edited by Wieselgren.

MEDICAL TOPOGRAPHY OF INDIA,

COMPILED FROM VARIOUS WORKS AND MANUSCRIPTS

BY

THE EDITOR OF THE INDIA JOURNAL OF MEDICAL *AND PHYSICAL SCIENCE.*

We now redeem our pledge of giving up a portion of our pages to the important subject of the Medical Topography of India. It was originally our intention to have commenced this series from Ceylon, the southern extremity of India, but the valuable acquisition of the late Colonel George's original drawings has induced us to alter our arrangement. Our first article is therefore on the district of *Chittagong.*

CHITTAGONG.

In the transactions of the Asiatic Society, we find an interesting and curious article on the ancient geography of India, by Lieut.-Col. F. Willford, containing the following account of Chittagong, which that celebrated antiquarian extracted from a geographical tract in Sanscrit, which fortunately fell in his hands.

"Between that country, and *Traipura*, there is a range of hills, which passes close to *Comillah*, then all along the shore and ends near *Chat'gánh*. This range is called *Raghu-nandana* in the *Cshe'tra-samása*, and in the district of *Chat' gánh* there are two portions of it, one is called *Chandra-s'e'c'hara*, or *Chan-dragiri*; in this is *Shitá-cund'a*, or the pool of Sita', and the burning well. The other portion is called *Virúpácshya*.

The mountains to the eastward of *Traipura*, and of *Chat'gánh* are mentioned in the above geographical treatise: in the northern parts they are called the *Tiladri* or *Tailádri* mountains, with several places of that name, as we have seen before. The *Peguers* are called also *Talians*, and it is possible that the *Tailádri* or the mountain of *Tilá* or *Tailá* may have been so called from that circumstance: for they constitute, at least in the lower parts of that range, the natural boundary between *India*, and the *Talian* country or *Pegue*. Between *Arácan*, and *Avá*, is the famous pass of *Tállá* or *Tálláki*.

In the *Cshetra-samása* the *Carn'a-phulli* or *Chat'gánh* river, is said to come from the *Jayádri* or mountains of victory, and the *Nábhi* or *Náf* river, from the *Suvarn'a* or golden mountains; but these are portions only of the above range. The mountains, as well as the country to the eastward of *Trai-pura* are often called *Reang* by the natives. When we read in Major Dow's history of *Hindoostan*, that *Sultan* Sujah fled from *D'háccá* to *Arácan*, through the almost impervious forests and mountains of *Langámati*, it is a mistake, and it should be the forests and mountains of *Reang*. It is not likely that that unfortunate prince should fly from *Dháccá* to *Rangámati* on the borders of *Asáma*, a great way towards the north; but it it is more natural to suppose, that he darted at once into the wild of *Trai-pura* and *Reang*.

Ptolemy has bestowed the name of *Maiandrus* on this range, but which is now unknown. It is probably derived from *Mayun*, a tribe between *Chat'gánh*, and *Arácan* according to Dr. Buchanan. In this case *Mayunádri* signifies the *Mayun* mountains, and the *Peguers* are also called *Moan*.

By a strange fatality, the northern extremity of mount *Maiandrus* in Ptolemy's maps, is brought close to the town of *Alosanga*, now *Ellasing* on the *Lojung* river, to the N. W. of *D'hácca*. This mistake is entirely owing to his tables of longitude and latitude, which were originally erroneous, and probably have been made worse and worse by transcribers: but this may be easily rectified, by adverting to the interesting particulars, which he mentions concerning mount *Maiandrus*. In the upper parts of it, says he, are the *Tilaidai*, or the inhabitants of the *Tiládri* or *Tilá* mountains mentioned before; these are also called *Basadœ*. In the *Vámana-purán'a* section of the earth, the *Bhasada* tribes are mentioned, as living in the eastern-most parts of *India*. Ptolemy says, that the *Basaddœs* had a short nose as if clipped, and were very hairy, with a broad chest, and a broad forehead. They were of a white colour, and I suppose like that of the *Peguers*, called by *Persian* writers, a wheat colour, and in *Sanscrit Capis'a*."

On the subject of *Chittagong* river we find the following:—

"The *Carma-phullí* is also called, though rarely *Carn'a-phullí*, and it is the *Carnabul* of the Edrissi, who wrote about the year 1194: but that geographer has bestowed that name, rather upon the town of *Chat'gánh*, because situated on its banks.

The *Carma-phullí*, as I observed before, is called in the upper part of its course *Dumburá*, *Dumurá*, or *Dumríyá*: on its passing through the hills, it assumes the name of *Carma-phulli*: but its original name is *Bayulí* or *Rayulá*.* In the *Bhúvana-cos'a*, it is declared, that it flows through the country of *Arirrájya*, or kingdom of Ari, where it assumes the name of *Nábhi*, according to the *Cshétra-samása*, and is commonly called the *Náf*, and *Teke-náf*. This river is called in the *Bhúvana-cos'á*, *Héma* or golden river, probably because it comes from the golden mountains, styled *Héma*, *Canchana*, or *Canaca*, &c., which signify gold. In general all the rivers of this country are considered as branches of the *Carmá-phullí*, some are actually so, others are so only in a mystical sense. This accounts for the inland communications between the *Carma-phullí*, and the *Arácan* river, as delineated in former maps. It is not to be traced, as yet, beyond *Rán'eu* or *Rámu*, though it may exist still further south. In the first map of the *Bengal* atlas, this inland communication by water is well delineated from *Chat'gánh*, to *Chacoríyá*; and Mr. Bartholomew Plaisted, Marine Surveyor, carries it as far as *Rámu*.† In the *Cshétra-samásaf* it is asserted, that the river to the south of *Rámu*, about *Yojanas*, or eight *Cos*, is an arm of the *Carma-phullí*, and the boundary of the *Barma* country, or *A'rácan*; and the author says, that there are in that country, five rivers or branches of the *Carma*, *Ichchámati*, which flows by *Rámuna* or *Rámu*, the *S'anc'há*, the *Sunkar* of the maps: the *Sr'imatí*: the *Swarn'áchari*, call-

* *Cshétra-samása* and *Bhúvana-Co'sa*.

† See New Directions, &c. by Benjamin Lacam, p. 20. Mr. B. Plaisted, whilst surveying some parts of the *Sunderbunds*, was carried away by an alligator, which he mistook for the rotten trunk of a tree. This was written at the end of his survey, where he thus left off, in the Surveyor General's Office, where I saw it about 10 years ago.

ed in the spoken dialects, according to our author, *Son'áchari*, but these two are unknown to me. The last is the *Cesárá*, in the spoken dialects *Cach'hárá*, and on its banks is *Havila-dara-gráma*, commonly called *Ranguna*, which is inhabited by *Magas*, and is situated amongst hills ; and from it this river is called *Havildára* in the maps.

The river we mentioned before, two *Yojanas* to the south of *Rámu* is called *Rajju*, which in *Sanscrit* signifies both a rope and a bamboo. *Rajju* is also synonymous with *Gun'a* and *Dáma* ; which last is the name of several places on that coast. Perhaps these words imply, that there was either a cable, or a boom of bamboos lashed together, laid across the river. There the king of *Sonitpur*, *Naraca*, placed the *Linga* or *Phála* of Mahádéva, under the name of *Adya-nátha*, the primeval lord, *Linga* and *Phallus*. In the *Bhúvana-cos'a*, it is said, that this place was laid waste by *Yavanas*, or *Muselmans*. Another name for it, was *Phalgunagar* or town of Phalguna, having been built by Arjuna, called also *Phalguna*. In the *Cshétra-samása*, it is said, that it was near a river, and that it was built by a man of that name, and it is, says our author, commonly called *Phan guna* or *Phalgun*. Another name for it, he adds, is *Pháruïgára*, and this, in my opinion, is the *Baracura* of Ptolemy. *Phalgun* is called *Palong* in the maps, with the epithet of *Burra* or the great, which might have been the case formerly.

To the south of the *Rajjoo*, about forty miles is the river *Nábhi*, vulgarly *Náf*, because it proceeds from the navel of a certain god, who resides amongst the hills. It is more generally called *Teke-náf*, and in official reports, made to Government, I understand that it is generally so called. *Teke-náf* implies, that it flows through the country of *Teke*, written in some *Sanscrit* books *Tecu*, and *Teceu*, to be pronounced *Tecoo* and *Tekyou*. It is now the boundary of *Arácan ;* and in some maps, it is called the *Dombac* river, from a place of that name situated on its banks. The *Sanscrit* name of *Arácan* is *Barmá*, *Barmán* and *Barmánaca* proper ; by the people of *Pegu* it is called *Takain*. Dr. F. Buchanan* says, that *Thœk* is the name of a tribe, living on the eastern branch of the river *Naaf ;* and who sent a colony to the upper parts of the *Carna-fulli ;* and the circumstance is recorded in the *Bhúvana-cos'a*, in these words : " at *Carcandaca*, in the woods, will come a Tecu-rájá, who will abolish all distinctions of castes ; but Nágárjuna will destroy him." In the *Cshétra-samása*, it is called *Carcándu*, near the *Carma-phullí*, and its present name is *Cácundi*, says our author. It is also in the country of *Cemuca*, commonly called *Ceu* or *Ceuncá ;* and its inhabitants *Ceuci* or *Kookies*. A respectable native of *Rangoon*, who came some years ago to *Benares* with many persons of that country, informed me that he had been at *A'rácan*, and that he understood, that the bulk of the inhabitants were of a tribe called *Tek* or *Teké* ; and from it the country was called *Tekain* or *Takain*. He suspected that *Tecain*, *Yecain* and *Recain*, might be the same name differently pronounced, and indeed Dr. Buchanan says, that indistinct articulation is fashionable through the *Burmán* empire, and the adjacent countries."

" *Chaturgrama.*—A district situated at the south-eastern extremity of the province of Bengal, between the 21st and 23d degrees of north latitude. To the north it is bounded by the Tipperah district ; to the south by Aracan ; to the east it has the Birman empire ; and to the west the sea. In length it may be estimated at 120 miles, by 25 the average breath."

" Chittagong, it is probable, originally belonged to the extensive and independent kingdom of Tipperah ; but being a frontier province, where the two religions of Brahma and Buddha met, it was sometimes governed by sectaries of the one doctrine, and sometimes of the other. There is reason to believe it was taken from both about the beginning of the 16th century by the Afghan Kings of Bengal : and afterwards, during the wars of the Moguls and Afghans, reverted to the Buddhists of Aracan. Chittagong was first visited by the Portuguese so early as 1618 ; and the Rajah of Aracan having influenced a great number of that nation to settle there, in conjunction with the Muggs of Aracanese, they infested and desolated the south-eastern quarters of Bengal, which, distant as the period is, has not yet recovered its population or cultivation.

" In 1638, during the reign of the Emperor Shah Jehan, Makat Ray one of the Mugg chiefs, who held Chittagong for the Rajah of Aracan, having incurred his displeasure, and apprehending an attack, sought the Mogul sovereign's protection. This is the first authentic account of the superiority of this province being acquired by the Mogul, nor was it taken possession of until 1666 ; yet long before this period, it was regularly enumerated by Abul Fazel in the list of the Mogul dominions. In 1666, Shaista Khan, the soubahdar of Bengal, having equipped a powerful fleet at Dacca, dispatched it down the Megna, under the command of Omeid Khan, who, having previously conquered the Island of Sundeep, proceeded against this province, and laid siege to the capital. Although strongly fortified, and containing, according to the Mogul historians, 1223 cannon of different calibres, it made but a feeble resistance ; and, on its surrender, a new name (Islamabad) was conferred on it, and it was with the district permanently annexed to the Mogul empire.

" This province, at an early period, attracted the notice of the English East India Company, who, in 1686, proposed to remove their factory from Hooghly to Chittagong, and there established by force a respectable fortified residence. On the 17th Dec. 1689, during a rupture with the Emperor Aurengzebe, an English fleet appeared off Chittagong, with an intention of seizing it, and there fixing the head of their settlements in the Bay of Bengal ; but owing to indecision, nothing was done ; nor would it have answered the Company's views, had the original purpose been

* *Asiatic Researches*, Vol. 6. p. 229.

accomplished. In A. D. 1760 it was finally ceded to the East India Company, by the Nabob Jaffier Ali Khan.

Population.—In 1801, by the directions of the Marquis Wellesley, then governor-general, the board of revenue in Bengal circulated various questions to the collectors of the different districts on statistical subjects. The result of their replies tended to establish the fact, that the Chittagong district contained 1,200,000 inhabitants, which appears an astonishing number, if the modern boundaries of the district have not been enlarged. Of this population the proportion of Mahommedans was three to five Hindoos; and what is remarkable, although so long under a Buddhist government, very few of that sect are now to be found in the district."

Mr. Adams in his report on education states that—

There is still a native class of Mughs in Chittagong, the remains probably of the first colony from Arracan that occupied Tripura on the re-conquest of that territory from the Mohammadans. The eastern limits of the district have not been fully explored but are principally occupied by rude aboriginal tribes more resembling the Burmese than the Hindoos, and by Mughs. The former do not appear to have agregated into numerous societies, or to have any dependence on a general chief of their respective nations. Amongst the Mughs, the men have adopted the Bengalee dress, but the females retain that of Arracan and Ava. They eat every thing and with any body, but do not intermarry with strangers. The southern portion of the district is occupied by poor classes of herdsmen and families of roving hunters, who catch, tame, and occasionally eat wild elephants, the aborigines of the forests.

I have not met with any account of the present state of the Portuguese population in Chittagong beyond a general reference to their ignorance and impoverished circumstances. Chittagong was first visited by them in 1581 where they settled in considerable numbers, and in conjunction with the Mughs or Aarracanese, infested and desolated the south eastern quarter of Bengal.

Indigenous Elementary Schools.—The report made by the local functionaries in 1824 to the General Committee stated that there were many private schools in the villages around Chittagong, but their number or condition had not been ascertained.

English school.—An English charity school, a branch of the Calcutta Benevolent Institution, exists at Chittagong in connection with the Serampore mission. The salary of the teachers is furnished from the funds of the Benevolent Institution, while the incidental expences and books are supplied from Serampore. It was instituted in 1818 for the education chiefly of the Roman Catholic children of the place, and it is attended by about 120 boys who are instructed in reading, writing, arithmetic, geography, and history. The young men who have been educated in this institution are found in many offices of respectability in the neighbourhood. Some have received the command of small vessels, and are respected for their steadiness and good conduct.

In 1834 another English charity school, in connection with the Church Missionary Society, appears to have been formed at Chittagong, and subsequently discontinued in the present year for reasons which are not given. The circumstances as far as they have been published, are these. At the pressing and repeated applications for a schoolmaster from the civil and military residents of the station as well as from several natives, a student of Bishop's College, in connection with the above mentioned Society, was appointed, the residents at the station undertaking to defray all the expences of conducting the school. A school-room was built and 36 scholars were registered. A grant of land from Government was applied for by the collector, which, with the sum raised on the spot, was expected to afford means for keeping the school in a state of efficiency. English, Persian, and Bengalee, were taught. The establishment of this school appears to have been disapproved by the Serampore missionaries, who remarked in one of their reports that they could scarcely attribute this movement in favour of the Roman Catholic population at Chittagong to a pure compassion for their misery. The attendance at the Serampore mission school was injured by the competion, and the originators and supporters of the new school, on re-consideration, appear to have deemed it better to discontinue it, and was accordingly abolished, and the books, furniture, and scholars transferred to the old school.

Native Female School.—In connection with the Serampore mission there are two native female schools attended by about 60 girls. Both Bengalee and Hindoostanee are used to convey instruction. These schools are kept in a fluctuating state in consequence of the early marriages of the girls, who are removed just at the time when their minds are expanding, and they are most capable of acquiring knowledge.

"This district contains about 2987 square miles of unproductive, hilly, and plain arable lands, nearly in the proportion of two to one, and was originally divided into four moderately large, and 140 very small pergunnahs, partitioned among 1400 landholders. This distribution originated in consequence of the whole district having formerly been assigned for the militia, or garrison troops, constantly maintained here for protection against the incursions of the Mughs or Aracanesse. These, in process of time, became distinct zemindaries, when the military establishment ceased to be necessary."

"The River Nauf, which bounds the British and Birman territories, is situated at a considerable distance from the town of Islamabad, the seat of provincial government, and residence of the English magistrate. The banks of this river are covered with deep jungles, interspersed with scanty spots of cultivation and a few wretched villages, where dwelt the poorer class of herdsmen and families of roving hunters, whose occupation is to catch and tame wild elephants, which abound in these forests.

"The sea coast of Chittagong is much resorted to by the European inhabitants of Bengal, on account of the beneficial effects of the sea air and salt water bathing."

Major Pogson in a published narrative during a tour to Chittagong observes that,—

"The circuit of this little region among romantic hills, presents a succession of sylvan glens, emerald vales, and majestic amphitheatres; and springs unnumbered supply the limpid streams of rippling brooks."

On the subject of the soil he has the following remarks.

"The external soil is sandy. The existence of volcanic matter is abundantly apparent in the frequent earthquakes.—They appear to proceed from subterraneous explosions of the same kind of inflammable air, which ignites as it escapes from the water of Balwakoond, and from other springs and places in that vicinity. The natural conjecture therefore, is the existence of extensive strata of coal; and the familiar phrase of 'the explosion of a coal mine' may account for both phenomena.

I was informed that eleven earthquakes had happened in the space of six weeks; two of them were alarmingly severe. The walls of a house were cracked in a direct line from end to end."

"If the soil be congenial to pepper, it would probably be equally so to the other spices; because where they grow, pepper is equally abundant; and by parity of reasoning, where the growth of pepper is spontaneous, they would also flourish.

"The land is of a hilly and jungly nature and but a small proportion of it in cultivation. It appears adapted for the production of coffee, pepper, and the valuable spices of the east; and it possesses a very convenient seaport, Islamabad, for coasting traders in the bay at any season of the year. Ships of a considerable size are annually built here of timber, the produce of the country, in addition to a small quantity imported; and the Company have an extensive establishment on the sea coast for the manufacture of salt. Landed property in this district is for the most part distributedinto very small portions among numerous propiietors, which occasions incessant disputes respecting the boundaries."

The tea plant, I am informed, is wild in Arrakan. There is therefore no reason to suppose that it would not thrive in the adjoining province; consequently a public garden at Chutgaon would probably be attended with many advantages; for the tea, coffee, and spice plants it might supply, would possibly grow exuberantly in the dales and glens, and add new value to this interesting part of our possessions."

On the subject of Plants the same author observes:—

"The uncommon shrubs and plants which cover the hills, would form an ample field for botanical research, and be highly prized in the gardens of other parts of India to which this district in many respects seems foreign.

"Sir Wm. Jones mentions the hillocks being "covered with pepper vines, and sparkling with the blossoms of the Coffee tree."

"The pine apple flourishes in the shade of the hedges. The Jack fruit seems always in season. Wild Indigo appears every where; but it would fill a volume and require more leisure and talent than Major Pogson possessed to dsscribe the botanical and arboricultural productions of this province; its mineralogy possesses more substantial attraction, but the transitory nature of a narrative obliges that officer to leave its vast mine wholly unexplored.

Animals.—The hills are tenanted by leopards, panthers, and hogs; those more remote (of which three ranges may be seen,) by tigers, elephants, and a variety of rare and beautiful birds; among them is the peacock pheasant, abont the size of a large hen; the plumage is less brilliant than that of the common pea fowl. "The wild cow of Tenasserim on this coast is about thirteen hands high, and of a most beautiful red colour except under the belly, which is white. It has no hump, like the cow of India; altogether it resembles the red cow of England; but is a much handsomer animal. The bull is a large and fine animal, and with the exception of having a white forehead, resembles the cow; but it is a most difficult thing to get a shot at them, as they have a most acute sense of hearing and smelling; one or two appear to act as sentinels while the others graze or drink. If in snuffing air, they find it tainted, off they fly in a moment, with a speed almost inconceivable, considering the form and bulk of the animal. The hunters say that it is impossible to take one of the full grown ones alive, although sometimes they manage to capture a young one first killing the dam."

People Produce.—The produce ef tha country is timber, wax, cotton, and rice. The former consists of Toon or Asiatic mahogany; chukrasee, a veined wood; and jarool, a tough coarse kind of wood. The number of sloops, grabs, and other vessels in the river, indicate the trade to be considerable. There were a number of one-masted junks which I understand come annually with the equinoctical gales from the Maldives with cocoanuts and oil, coir, cowrees and shells.

Revenue.—The revenue is not so great as might be excepted from the extent of the civil establishment, consisting of a Commissioner, a Judge, a Magistrate, a Collector, and three Junior Civilians.

	Sa. Es.
The annual land Revenue amounts to..	5,22,000
Duty on salt,.....	100,000
Punchoutra or Duty on clothes	26,000
Abkaree or Duty on liquor,.....	30,000
On kupas or cotton,.....	9000
	Sicca Rupees 6,87,000

Sojourneners.—There is a Roman Catholic Chapel, a Msssionary, subordinate to the Serampore establishment, and several hundred native Christians; also a college founded by Moohumud Yuhya, under the superintendant Mukhloo qoor Ruhman, who informed me that it was attended by about 140 students of Persian and Arabic.

Some of the Hills command a picturesque panoramic view of the settlement. And the sea is visible.

The Oysters or shell-fish are not good: a prejudice exists against eating them raw, as they are said to be creative of cholera morbus.

Chutgaon was celebrated for a large breed of fowls, but since the army assembled there, it has become scarce. Turkies are also fostered in considerable numbers by the native Christians, and sent to the Calcutta market.

The people carry large loads balanced at the ends of a bamboo; and if asked the distance to a place, answer so many hours; and by rating four miles to the hour, the answer is found by the process of the golden Rule of Three. By water, distance is rated at so many flood and ebb tides"

At Jafirabad about four miles north of Chittagon are "the ruins of the house formerly inhabited by Sir William Jones. It is on the north end of a range of hills, almost concealed by trees, planted perhaps by Sir William Jones himself. The eastern view is very wild and romantic; the western, when mist and fogs permit, opens on the sea. Pepul trees grow exuberantly from the roof, which has in many places fallen. The walls, entwined by their roots, are decorated with pannels and a festooned cornice. The plinth, or terrace, is built over charcoal, for the obvious purpose of rendering the rooms dry. It has been partly excavated, which has left a cracked and broken crust of masonry. The hall is about 35 feet by 30."

To be continued.

MISCELLANEOUS.

THE JOURNAL'S COVER.

We have been anxious to dress up our Journal as smartly as those of our contemporaries, and made the attempt last month by exhibiting true blue, but found that the dimensions of our Journal and of the paper did not suit each other, so that we have returned to simple white, to which we have determined henceforward faithfully to adhere.

THE HERALD'S ADVICE TO THE MEDICAL JOURNAL.

Our worthy brother of the Herald has thought it strange that we should occupy any of the columns of our Journal with the discussions on the Orphan school, Free school, &c. It is perhaps unknown to our contemporary that the great majority of our readers are subscribers to the former institution, and are therefore deeply interested in discussions relating to it. The Free school has, we trust, among medical men, some of its warmest supporters. Although it is true that the pages of the Medical Journal are, with the exception of three or four out of fifty to sixty exclusively devoted to Medical and Physical Science, we do not understand why our contemporary yet objects to our periodical being the independent organ of every subject connected with medical interests and public institutions? Why should the cause of orphans of our brethren be deemed irrelevant to the subjects discussed in our pages, and the interest of the orphan destitute children foreign to Medical Science, intimately as that science is connected with the cause of humanity? But there are other reasons why we should not omit subjects of this nature.

Many of our professional brethren do not take in the Journals in which our contemporary would have these subjects exclusively published, we were not aware of this fact until omitting to publish the General Orders connected with the medical profession, under the impression that they would be seen by all in the daily papers, communications reached us, stating that such journals were not accessible to all, and we were requested in consequence to continue to supply the desideratum. It is on this account principally, that we have determined to supply our brethern in the jungles with Miscellaneous literary intelligence.

ATTENDANCE OF THE CIVIL SURGEON ON THE NATIVE SICK POOR AT HOWRAH.

We have been informed that in reply to an application from the gentlemen forming the Committee of Management of the Howrah Hospital, the Government have sanctioned; that, the professional attendance on it should be considered a part of the official duties of the Civil Surgeon at the station. We are glad of this decision for two reasons; first, that the poor in that direction will be attended to, and secondly, that it is an earnest the rulers of this

country are thinking on the subject of providing for the sick native poor of India.

We trust however we may be permitted to urge the claim the labourer has to his hire. If the Civilian is paid according to the responsibility of his office out of the revenues of the country to secure an efficient and cheerful discharge of his duties to the state; such policy in our opinion should not be neglected in remunerating medical men for additional arduous and anxious offices to secure the cheerful and efficient discharge of their duties to the sick. We are not to be supposed however as detracting from the disinterested and benevolent character of medical men in advancing the foregoing position that they would reluctantly attend upon the sick unless remunerated, we are aware that no conscientious medical man would neglect the performance of such sacred duties. The benevolence of our brethren in all parts of India testify to the truth of this assertion; for they have not only attended upon the sick gratuitously, but absolutely paid for their subsistence in innumerable instances out of their own circumscribed means. On these grounds we conceive their claims are strengthened for remuneration. In our present number we have given a sketch of the Benares Hospital. It will be seen that the Medical Gentleman attached to it is properly remunerated and as regards the cause of humanity, it is truly gratifying to learn that on an average 8,000 afflicted sufferers have been yearly admitted and relieved from acute bodily sufferings at the trifling expenditure of 5,000 rupees per annum. In 1833 it will be perceived in our review of Dr. Stewart's paper on the fever which prevailed at Howrah, that Dr. Jackson afforded medical relief and the means of temporary subsistance to upwards of 6,000 individuals, 280 of whom were treated in Hospital, being cases of acute disease or such as required surgical operations. Every day is shewn the great good to be rendered by establishing such hospitals as these and by giving to them efficient establishments. In conclusion we would recall to mind that unless the Government come forward to establish them, they will never be instituted, that so far back as 1803 "the Governors of the native hospital of Calcutta having witnessed the progressive extension of the charity under their management, from the relief of two hundred and sixteen persons in the year, to that of four thousand nine hundred and forty-nine, resolved to address the Governor General in Council as follows:

"As the benefits which were expected to be derived from the Native Hospital have been so fully realized, and as Institutions of this nature would be attended with proportionate advantages at the principal Cities in the provinces, it is our intention, with the approbation of your Lordship in Council, to address the senior civil servants at Moorshedabad, Dacca, Patna, and Benares, on the subject, and hereafter to submit a plan to Government for the establishment of Hospitals at those stations, not doubting, that if the subscriptions of individuals should prove inadequate to defray the expences, the same liberality that was manifested by Government towards the Calcutta Native Hospital, will also be extended to other Institutions of that description.—Such establishments are the more requisite, owing to the confined knowledge of the native Practitioners in Medicine, and their ignorance of Surgery and Anatomy."

On the 22nd of the same month, the Governor General was pleased to reply that "His Excellency in council approves the suggestion in the 4th Para. of your letter, and authorizes you to communicate with the senior civil servants at Moorshedabad, Patna, and Benares, on the subject of the establishment. at those stations, of Institutions, to be founded on principles similar to those on which the Native Hospital at Calcutta was established."

The Gentlemen referred to in His Lordship's letter were respectively addressed by the Governors, and a copy of the rules, together with a statement of the condition of the funds of the Native Hospital was furnished them; but with exception to a temporary establishment at Dacca, the scheme failed: and notwithstanding that each of the Gentlemen exerted himself with great zeal, the answers conveyed little else than disappointment, owing to the general

apathy and want of an active feeling of charity amongst the Natives in some of the Districts, and the general poverty caused by the improvidence and oppression of former Govenments in others ; so that with the trifling exception abovementioned, the most laudable attempt to extend the benefits of a similar Institution to the great cities of the interior, fell utterly to the ground.

THE UPPER ORPHAN SCHOOL.

We regret to find that our esteemed contemporary of the *Courier* has admitted into his paper of the 20th instant, by an oversight we have no doubt, an unwarrantable attack upon the young ladies of the Upper Orphan School. The writer has accused the orphan not only of slovenness in their dress : but of many other gross inproprieties, even such as uttering falsehoods, and it is added that hitherto they have not allowed themselves to be trained up in a creditable manner. Now so far to the contrary is the state of the case, that we should neglect our duty were we not to state, that when we were one of the management, we not only constantly visited the institution, but dined at the table of the young ladies in order to make ourselves fully acquainted with the internal economy of the school. We have likewise examined into every particular regarding their education. The result of our visits and examination was most satisfactory, and highly creditable to the pupils and their respected and beloved teacher's Miss Cuming and Miss Sturrock. There may be some who think, we are partial in our praises of these ladies : but we can appeal to other contemporary managers who are ready to bear the same testimony, viz. The venerable the Archdeacon, and the Revd. H. Fisher, who also frequently visited the school. It has been in the course of our professional duty that we had opportunities of meeting with the wards who have been married from the institution and we can testify that their manners and conduct afford a decided contradiction to the imputation to which we have alluded. It is to be lamented that the committee of management—the constituted guardians of these orphans of their brother officers, should allow such injurious allegations as these to go forth unrefuted in the columns of that paper of which they are the representative proprietors. As regards Miss Cuming we are glad to add that some of our professional brethren at the Presidency have adopted the most desirable and legitimate course of proceeding, by applying officially, according to the regulations of the institution, for all documents connected with her dismissal.

THE MEDICAL FUND.

The committee of management had nothing to communicate of interest to the members of the fund at the last quarterly meeting beyond the mere detail of unimportant correspondence from some of its members. We took an opportunity, however, of obtaining from the Secretary a statement of the funds up to July of the past year. We deem it right to publish this for the information of members of the Fund. There is, of course, a considerable amount not yet realized.

It is our intention to give at a future period a tabular statement of the funds with remarks upon its present state.

THE SPIRIT OF THE TIMES.

We were much gratified at the last meeting held at the office of the Secretary of the Military Fund to observe a brother Editor taking notes, and what is more, no objection was made to his intention to print them. Some of the subscribers attended the meeting for the purpose of suggesting improvements, &c. among these were Col. D'Aguilar, the Revd. C. Wimberley, and Revd. Wm. Garstin. The last gentleman desired, we understand, to become a member of the fund, although he is not himself attached to the Company's Service : he is Chaplain to the Free School, which gave him a claim similar to that of the Revd. John McQueen's, who was admitted by the majority of votes of subscribers. It was stated by the President, in reply to some observations which fell from

Mr. Wimberley on the way in which the accounts were passed. He observed that no proposition could be entertained at that meeting but must be circulated throughout the army. The following is an abstract of receipts and disbursements during the past year, exhibiting also the balance in favor of the fund.

Balance on 31st Dec., 1834,		Sa.Rs. 26,75,092
RECEIPTS.		
Donation from Subscribers,	93,519	
Subscriptions,	2,10,110	
The Company's Donation,	22,965	
Difference of Exchange between 1s. 11d. and 2s. 4d.	68,692	
Interest on Govt. Paper	2,10,016	
Donation and Subscriptions in England,	15,779	
Sundries,	1250	
		6,22,329
		Sa. Rs. 32,97,422
DISBURSEMENTS.		
Office,	5,064	
Pensions in India,	56,719	
Passage money of officers paid in India,	19,500	
Do. to 8 Widows,	15,209	
Outfit to Officers paid in India,	12,000	
Drafts from England,	358,549	
Interest on do. at 5 per cent. paid to the Company,	21,127	
Donations, &c. in England, remaining there,	15,776	
Sundries,	5,856	
		5,11,391
Balance 31st Dec. 1835,		Sa.Rs. 27,86,031

It is to be regretted that so little interest is taken in the management of this important institution by those unconnected with its direction, that out of 54 subscribers at the presidency only 15 attended the meeting, and eleven of these were Directors. It is obvious, that however, unreasonable it may be for men to confirm and adopt their own proceedings, and re-elect themselves, subscribers allow of no alternative by such indifference. In our opinion if the meetings were held at the Town Hall, as proposed by Drs. Grant and Pearson, this, in a great measure, might be guarded against. The gentlemen who did attend to discuss questions of importance, found that such discussion was foreign to the object of the meeting. But we are of opinion that a special one might be called for such a purpose. It is true that propositions may be made and submitted for the votes of the army, but propositions, generally speaking, to be of value should be the result only of mature investigation and public debate. The following were the gentlemen ballotted for and elected Directors for the ensuing year.

Captain Gavin Young, President—Colonel Battine—Captain Henderson—Captain Fitzgerald—Mr. Corbyn—Capt. W. Cubitt—Capt. Ouseley—Capt. Hawkins—Dr. A. R. Jackson—Capt. R. J. H. Birch—Lieut. G. R. McGregor—Capt. Stoddart—Revd. C. Wimberley.

MEDICAL AND PHYSICAL SOCIETY'S MEETING.

Saturday, January 2, 1835.

J. Langstaff, Esquire, First Member Medical Board, in the chair.

Dr. McCreery and Mr. Assistant Surgeon Burt, of H. M.'s 9th Regt. Dr. J. Bowron, Assistant Surgeon of the Bengal Establishment, and Dr. Bain, of Calcutta, proposed at the last meeting, were elected members of the Society. Mr. Raleigh was proposed as a member of the Society, by Principal Bramley and Mr. Hutchinson. Some discussion arose, whether Mr. Raleigh should be admitted without ballot. Mr. Egerton in answer to a remark from the chair observed that "the rule of the Society in these cases was very simple, namely, that when a member leaves the society from finding it inconvenient to pay the subscriptions he may return to it without ballot; but when he leaves it from caprice or any other motive, then he can return only by being regularly proposed and ballotted for.

The Society then proceeded to elect a Vice-President and Office Bearers for the ensuing year. Previously to the ballot being taken, Mr. Hutchinson intimated to the Society that he wished not to be re-elected as their secretary, expressing his regret at being obliged to withdraw from the office. The state of his health, however, rendered it necessary that he should relieve himself as much as possible from exertion; in addition to which the nature of his other pursuits occupied his time so completely as to render him incapable of paying that attention to the Society's affairs which their importance demanded. Mr. Hutchinson laid upon the table 90 printed pages of the forth coming volume of the Transactions; A vote of thanks was unanimously passed in favor of Mr. Hutchinson in acknowledgment of his services. The ballot box was then circulated, and the following gentlemen were found duly elected.

Vice President	N. Wallich, Esq. M. D. F. R. S. &c.
Sect. and Treasurer.	H. H. Goodeve, Esq. M. D.
Assistant do. do. . .	H. S. Mercer, Esq.
Foreign Secretary .	W. B. O'Shaughnessy, Esq. M. D
Members of the Committee of Management.	D. Stewart, Esq. M. D. C. C. Egerton, Esq. J. Hutchinson, Esq. A. Garden, Esq.
Members of the Committee of Papers.	M. J. Bramley, Esq. W. Cameron, Esq.

On the election of Dr. Goodeve to the office of Secretary, that gentleman rose and observed, that when he came to the meeting he was ignorant that the honor of being elected their Secretary was to be conferred on him. He could not help thinking that his abilities had been greatly overrated, and he therefore approached the arduous duties with great fear lest he should fail in filling the office so efficiently as members seemed to anticipate. When he called to remembrance the names of Adam, Twining, Bramley, and Hutchinson—gentlemen of such distinguished abilities, who had preceded him, his apprehensions for his own success were increased. But there were other circumstances which perhaps ought to induce him to decline taking upon him these arduous duties: he alluded to his already important and responsible avocations, but lest he should evince an unwillingness to do his utmost to promote the interests of the Society, he would no longer detain the meeting by stanting obstacles but accept the office—*applause.*

Dr. O'Shaughnessy followed and said that he had been taken likewise by surprise; he was totally ignorant of the qualifications his friends had discovered in him to fit him for the office of Foreign Secretary, unless, (he good hnmouredly added) his knowledge of Irish were a qualification: he would willingly, however, accept the office to which he had the honor of being elected.

A case of Weiss's Lithotrity Instruments were presented for the inspection of the Society, by J. Hutchinson, Esq.

The following work was presented for the Library.

The Dravya Guna (or the quality of foods,) in Sanscrit, with a Bengali version, by Rajah Kali Krishna, presented by the author.

Read a letter from O. Wray, Esq. Surgeon European Regiment, expressing that gentleman's wish to have his name withdrawn, from the Society.

The following communications were then presented. Memorandum of 2 cases of hydrocele, treated by iodine injection by D. Stewart, Esq. M. D.

An account of several cases of sloughing ulcer which prevailed amongst the jail prisoners at Purneah, by T. Chapman, Esq.

A case of incipient leprosy, by C. Macdonald, Esq. presented by the Medical Board.

Cases of fever of a malignant type occurring in sepoys at Agra, presented by the Medical Board.

MEMBER PROPOSED.

Mr. R. O'Shaughnessy, Surgeon, of Calcutta.

The following propositions were then made to the Society.

Proposed by Dr. Stewart and seconded by Dr. Innes,—That all subscriptions to the Society shall be payable in Company's Rupees in lieu of Sicca.

Proposed by C. C. Egerton, Esq. and seconded by Dr. Dempster,—That the monthly abstract of periodicals, accompanied by an abstract of the proceedings of the Society, be resumed.

Dr. Stewart could not help expressing his surprise at the proposition then before the meeting. Indeed, he was quite unprepared for such a proposition; and regretted that it should be brought forward at such a moment when a medical periodical like the *Journal of Medical Science* was in existence. He did not see the necessity, therefore, for the Society going to the expence of publishing a series of selections. For his own part he would much rather see the Society purchase the *Journal of Medical Science* than thus appear to stand in the way of its success.

Mr. Egerton in reply, observed, that he was astonished at the observations which fell from Dr. Stewart. It was the first time he had heard that the *Journal of Medical Science* was to be put up for sale or for auction. He however put it to the sense of the meeting whether this society was not capable of sending an abstract of their proceedings and selections as in the days of Mr. Twining, to the members of the Society without having the question of an extrancous publication forced upon their notice with which this Society had nothing whatever to do his Mr. Egerton's proposition for a monthly periodical was based on the grounds that the members in the mofussil complained that they never heard of the Society except to pay monthly subscriptions, and that they were dissatisfied.

Mr. Hutchinson with reference to Mr. Egerton's proposition, begged to take the opportunity to correct an error. He had been represented as having objected, to the proceedings of the society being reported. Now in fact he had always been willing to consider the question of reporting the proceedings an open one; but he certainly objected to their being reported for the benefit of Dr. Corbyn's Journal. If they were to be reported at all, it should be for the benefit of the society and its members, and he did not see why Mr. Bignell who had promised to report for Dr. Corbyn would not be equally willing to oblige the society.

Dr. Stewart did not understand how the abstracts alluded to by Mr. Egerton could be circulated with advantage to the Mofussil subscribers.

Dr. Mercer said that he had understood that transmitting these abstracts would be attended with considerable expence on account of the post office regulations.

Mr. Hutchinson did not think that the expence would be so great as Mr. Mercer supposed.

Dr. Goodeve was of opinion that the proposition should be submitted for the votes of the Mofussil members.—Dr. O'Shaughnessy thought that the surplus funds might be expended on the publication of such a journal: he had himself just arrived from the Mofussil, and knew that the members there were not satisfied at receiving nothing as an equivalent for their subscriptions. The observation was that all they received from the Society was their bills for payment.

Mr. Langstaff observed that such remarks were certainly not exactly correct, since the members had been regularly furnished with the transactions of the Society. It was then—

Proposed by Dr. O'Shaughnessy, and seconded by Dr. Goodeve,—That the Committee of Management be directed to inquire into and report on the expediency of resuming the publication of extracts from periodicals.

Mr. Corbyn desired to see a correct statement of the funds of the Society in order that it might be clearly shewn how far it could embark in an undertaking without interfering with the purchase of those works which had hitherto been taken in for the benefit of its members, but which he believed had recently been discontinued. With respect to any observation from him regarding the Journal he had the honor to conduct, he feared it might be supposed that it proceeded from interested motives, especially if opposed to the proposition before the Society. There could be no question, however, that if the Society succeeded in getting up a periodical, it would materially retard the success of his own: and they should be careful lest by this proceeding both should fail in producing that good which it must be the object of both to obtain. He would be glad, however, to be relieved of his laborious and anxious undertaking, especially if the establishment of any periodical diffusing a greater mass of valuable matter and medical science than emanated from his own feeble attempts could be secured. He would observe, however, that only those, who have had much to do with the press, could understand the difficulties of conducting a journal like his in this country, where the correction of typographical errors required such arduous and unceasing attention.

Mr. Hutchinson, in allusion to the remarks which fell from Mr. Corbyn said, that the works now taken in by the society consisted only of periodicals, such as the *Lancet, Medical Gazette, Medico. Chirurgical Journal, Edin. Medical and Surgical Journal, American Journal,* &c.

"Dr. O'Shaugnessy briefly called the attention of the Society to an article by Messrs. Brett and Bird, quoted in the *India Journal of Medical and Physical Science* for January, 1836, as a confutation of his views regarding a new principle described by Dr. O'Shaughnessy as existing in the human blood. Dr. O'Shaughnessy stated that the gentlemen alluded to had not followed the proper process for obtaining the new substance; that indeed they could not have succeded by the plan they adopted. He noticed further a remarkable error, committed by the same writers, in some remarks published by them, regarding the presence of urea in the blood, a fact they denied, because the substance found had the smell of the urinary secretion. This palpable *non sequitur* Dr. O'Shaughnessy deemed a sufficient reason for distrusting the judgment of these writers on subjects of this nature."

GENERAL ORDERS.

Promotion.—Assist. Surg. H. Clark to be surgeon, 15th Oct. 1835.

Appointments.—Assist. Surg. J. H. Serrel to afford medical aid to left wing, 15th N. I.; Dr. Cragie to be assistant marine surgeon, Dr. J. S. Logen, 2d Assist. Garrison Surgeon; Fort William; Assist. Surg. J. Jackson to the Civil Station of Howrah; Assist. Surg. J. Corbet, 1st Asst. Opium Agency, Behar; Assist. Apothy. G. E. Poole to act as Apothy. and Steward to H. M. 13th foot; Surgeon J. Dalrymple to the medical charge artillery, Jeypore; Assist. Surg. T. Barber to charge artillery detach. Benares; Assist. Surg. R. Foley, to Med. Dept. Polit. Agent, Harowtee; Assist. Surg. R. C. Cannochie to the Civil Station of Sylhet; Assist. Surg. J. Corbet, Assist. Opium Agent Behar; Assist. Surg. W. E. Watson to the 69th N. I.; Apothy. M. Barret, Hos. Stew.; M. Perearra, to Ghazeepore with sick women H. M. 26th; Dr. Russell Assist. Surg. to 13th Foot, and eventually to 10th Light Cavalry; Assist. Surg. MacCurdy to the Arty. at Agra; Assist. Surg. C. Macintyre to the Civil Station Furredpore.

Leave of Absence.—A. Reid, C. Assist. Surg. of Boolundshahur, one month, cancelled; Dr. J. Anderson for one month; Dr. J. Jackson, Assist. Surg. Ghazeepore, to the 10th July; Assist. Surg. W. P. Andrew, to Europe, medical certificate; Surg. E. McDonald for one year in P. A.; Mr. Surgeon Wilson, Residency Indore for six months to the Presidency; Assist. Surg. H. N. Green to join; Surg. T. Stoddart, and Assist. Surg. Esdaile to Europe; Surg. J. Grant, to the Cape, medical certificate for two years; Surg. N. Maxwell in extension of six months in England.

Removals—A. Walker, Bombay Establishment, at the disposal of the Resident Hydrabad; Dr. M. Nisbet from 61st to 48th Regt. N. I.; Dr. J. Davenport, (furlough) from 8th Light Cavalry, to 21st N. I.; Supg. Surg. W. Findon to the Benares Div.; Dr. C. B. Hardyside, under Supg. Surg. Meerut circle; Apothy. Barrett and Assist. Apothy. Tresham, the former to officiate at Suddya the latter at Poora; Assist. Steward T. C. Sullivan to act as Assist. Apothy. to the 16th foot; Assist. Surg. J. S. Sutherland to charge left wing 3d N. I.; Assist. Surg. Thos.

Smith, to the performance of civil and military medical duties at Azimgurh; Mr. Assist. Surg. A. Henderson, to 50th N. I.; Assist. Surg. John Vaux, to 41st N. I.

Resignation.—Surgeon W. Hamilton from 9th June, 1833.

Deaths.—On the 16th November, fourth son of Assist. Surg. F. H. Brett; at Calcutta, on the 5th January, Dr. Thos. Spens.

WAR-OFFICE, AUG. 21, 1835.

4th Regt. Foot: Assist. Surg. W. Hntchinson Aleman, M. D., to be Assist. Surg; Surg. Mont. Mahony, M D., to be Surg. to the Forces; Assist Surg. J. Henderson Roland, to be Assist. Surg. to hte Forces; J. E. Nicoll, Gent. to be Assist. Surg. to the Forces.

February 1, 1836.

We have just heard it rumoured that intelligence has been received by Government, that Superintending Surgeons are to be allowed to retire on the pay of Lieut. Colonels immediately on their promotion instead of serving two years in that grade as formerly; also that the three additional annual retirements from the Medical Fund have been sanctioned.

LIST OF NEW WORKS.

MATHEMATICS, PHYSICS, AND CHEMISTRY.

Dumas, Traité de Chimie appliquée aux Arts. Tom. V. 8vo. 9s.

Ponteculant, Théorie du Systéme du Monde. Tom. III. 8vo. 12s.

Caspari, J. J., Algebra, von den ersten Elementen bis zur Analysis, oder den Lehren von den Funktionen. 8vo. *Coblentz.* 12s.

Creizenach, Dr. M., Lehrbuch der Trigonometrie, 8vo. *Frankfurt am Main.*

Grassmann, J. G., Lehrbuch der Trigonometrie. 8vo. *Berlin.* 2s.

Littrow, J. J., Der Himmel, seine Welten und seine Wunder. Mit Sternkarten, dem Port ät des Verfassers und vielen astronomischen Tafeln. 2te—4te Liefer. 8vo. *Stuttgart.* 7s.

Mecklenburg und Simon, Grundzüge der Chemie in Tabellen-Form. 4to. *Berlin.* 7s.

Meissner, P. T., Neues System der Chemie. 1ster Bd. 8vo. *Wien.* 1*l.* 1s.

Mitscherlich, E., Lehrbuch der Chemie. 2ten Bds. 1ste Abtheil. 8vo. *Berlin.*

Moldenhauer, Dr. F., Grundriss der Chemie für den ersten wissenschaftl. Unterricht in derselben. 3 Abtheilungen, mit Steintafeln. 3vo. *Karlsruhe.* 1*l.*

Tschiffely, R., Die Lehre der heutigen Physik in Bezug auf Luftdruck, Elementarkräfte, &c. 8vo. *Aachen.* 5s.

TO SUBSCRIBERS.

In consequence of the increase of the size of our journal we are aware that the postage will be an objection to some of our subscribers. To guard against this inconvenience, until the new post office regulations appear, we intend to establish an Agency at Allahabad to which place the copies of our Journal for our Subscribers in that direction will be forwarded, from the first of next month by the steamer, which we are informed will start from Calcutta for that station on the first of every month. Thus our Subscribers at Allahabad will get their copies free of expence, and those above Dinapoor will have to pay postage only from Allahabad, which is just half of the present charge.

TO CORRESPONDENTS.

The following communications will appear in our next.

Sket h of Mr. Lizars, by Edinensis.

On the management of Indian Jails by D. W. Considering the importance of this paper, we had marked it for our present number, but press of European Medical and Scientific Intelligence compelled us to postpone it.

Our readers will share in the pleasure we have in announcing that the talented writer and experienced physician Dr. Wise has added his name to the list of our contributors. His first communication, "Observations on Gastroperiodynia" shall appear next month.

D. S. on the Hospital Reports of the General Hospital Calcutta"—Case 1st *Puerperal Neuralgia;* "Case II Pemphigus Simplex" shall appear in our next.

We beg to acknowledge our obligation to Mr. Brett, for his valuable communications, "First Encysted tumour of the leg," with drawings. These shall be immediately put into the hands of our Lithographer. Second "operation in deux temps." We have the happiness to state that Mr. Brett has kindly promised to contribute regularly his "surgical clinique," from that extensive field of practical knowledge Cawnpore, and that papers are prepared on "Congenital cataract, Lithotrity, Fistula Lachrymales, and Extraction of Catarrh."

We beg to acknowledge the receipt of Mr. Baddeley's important case of troublesome Hœmorrhage after amputation. This shall appear next month.

Dr. Chapman's interesting cases of deformity after burns have been received.

Dr. Fuller having observed in our last number that Mr. Hutchinson put a question to us relative to the use of Lig. Ammon. in milk as an injection in cases of Amenonhoa, has kindly furnished us with the following receipt.

Select Formulæ.

At the head of emmenagogues I hesitate not to "place the one recently discovered in Italy, which has been found very successful in London."

Mistura Ammoniœc Lacti.

Rj. Liquonis Ammoniœ mxij.

Lactis tepefacti oz. iss.

Mice et injice in vaginum cum syringi.

In Amenorrhœa. Savagna.

Wine has been substituted for Ammonia with similar effect.

Orders on the General Treasury have been duly received from the following gentlemen: D. A. Macleod, Esquire. A. Walker, Esquire, John Wilkie, Esq. Dr. Phillipson, T. Stott, Esq. Our acknowledgment of receipts thro' houses of agency will be made by the members of firms to their constituents.

☞ To avoid double postage and the disagreeable necessity of having their copies returned to us, we shall feel obliged if our subscribers will immediately on a change of residence inform us of their new address.

THE INDIA JOURNAL

OF

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VOL. III. OLD SERIES.] MARCH 1, 1836. [VOL. I. NEW SERIES. NO. III.

SKETCH OF MR. LIZARS.

To the Editor of the India Journal of Medical and Physical Science.

SIR,—I confess that I should not have thought of presenting this gentleman to your readers, except for the sake of uniformity; and as a vehicle for some observations on affairs in general, as I think him in every sense the *last* of the Lecturers. After shortly discussing him, we will attempt to "improve the subject," as the Scotch divines say. Mr. Lizars's outward man is, I think, a pretty good index to his mental qualities; he is of a comely visage and complexion, but all is soft, round, and yielding in outline, and expression; and his manner, though studiedly engratiating, is wavering and uneasy; he looks uncomfortable, and as if afraid of committing himself. When called to consult with Liston, at the bed-side of a patient, he approaches timidly, as if expecting to be *snubb'd*, and confines himself to unqualified assent, in whatever the Ajax of Surgery may have done. Being constantly employed in teaching Anatomy, he can scarcely fail in the local knowledge required by the operator, and he does not want for boldness in planning and executing difficult operations, as his extirpation of the upper jaw and ovarian tumours, and a proposal to remove the prostate gland (may he never need the operation himself, as he anticipates!) amply shew;—nevertheless I would prefer his opinion in *consultation* to the unassisted efforts of his own judgment. The following story of an *unexpected* resnlt to an operation, used to be current in the Lecture rooms. Mr. Lizars having determined to extirpate an ovarian tumour, notice of a field day was given, and among others the late staff Surgeon Deans attended to witness the proceedings, warm clothes were ready to receive the bowels, and the patient was ripped up from pubes to sternum, when lo! out started an immense tumour, covered with vessels, the size of the little finger, and no ovarian tumour at all. The operator stepped back aghast, and turning to Mr. Deans, exclaimed what's to be done!—"done!" said he Irishman, "Arrah! sew her up again to be sure"—and she was sewed up, and I am happy to say, lived. Mr. Lizars's industry and assiduity in teaching are highly creditable to him, but like Cæsar, he is "ambitious," and exposes himself by his pretensions to the criticism, if not to the envy, of his contemporaries. It is but too evident that the learned Lecturer's classical lore has suffered by the tear and wear of an active life, by land and water; this being natural, would not excite surprise or remark if our admiration were not challenged by his extreme love of Barclay's Greek Anatomical compounds, and his constant quotation of choice specimens of dog-Latin anthology. He has in truth a perfect monomania for "*Lesquepedalia verba*,' (Scottice "kittle words") whose fair proportions and quantity he curtails, and dislocates with true professional apathy and confidence, in spite of the convulsive shudders of the head of Galen, which surmounts the doorway, and his reproachful "A tu brute"! (oh! you brute.) This affectation pervades his work on Anatomy to such an extent, as to make it utterly repulsive. Medicine requires a knowledge of such innumerable facts, and includes so many branches of science, that it, of all studies, ought not to be overlaid with strange and uncouth technical terms, (break-jaw-ology) lest the student turn from it in loathing and despair. Strong must be the love of truth in the mind which holds on the "even tenor of its way," undeterred by the *cacology* of good; and Lizars, whose works are enough to make stutterers for life of their readers. The mischief arising from the use of these barbarous jargons, equals the bad taste of their inventors, for they only distract and harrass the student, consume his time, and lead him to attach undue importance to worthless pedantry, by which mystification is perpetuated; as no man likes to confess the uselessness of what he has been at pains to acquire, having been "humbugged" himself he "humbugs" others. Let us hope that we shall no longer hear of English, the mother of common sense and sound philosophy, being wanting in "philosophical precision;" but let it be suspected, that the man who wears a cloak in sunshine has something to conceal, probably his own ignorance or roguery. It is more especially necessary that medical writings

in this country should be plain and simple in their style, now that we are attempting to teach the natives our art and language. For their sake, for the credit of medical learning, and the advancement of good taste, I hope pie bald Apothecaries' Latin will be dismissed from the pages of your Journal henceforth, and that our Physicians will no longer pride themselves on the classic phrase "*pro re nata sumenda*"; when the public knows that Ciceronian though it be, it is as much *stock-in-trade* as a pestle and mortar, itch ointment, or cantharides.

Your obedient Servant,

EDINENSIS.

P. S. Your devils take a fiendish glee in making me utter more nonsense than I am answerable for: they make me wish for Dr. Syntax's "brain," instead of "buvin," &c. But it is in vain to expostulate "for it is their nature so."*

ON THE MANAGEMENT OF INDIAN JAILS,

By D. W.

To the Editor of the India Journal of Medical and Physical Science.

SIR,—It was my intention, ere this, to have offered you a few more observations, elicited by Mr. Hutchinson's work on Jail Management and your Review.

In comparing the rates of mortality among Sipahis and prisoners, both you and Mr. Hutchinson appear to me to underrate the advantages the Sipahis enjoy. The recruits are in the first instance picked men, in the prime of life, and free from any existing organic affections, as far as a Surgeon can judge. Those whose forms indicate even a tendency to certain diseases, are rejected. How often, for instance, do we reject a recruit who is narrow chested, or who has one side rather fuller than the other; aware that such individuals are not only more liable than others to affections of the lungs, but that they cannot stand the fatigue as well-formed men can endure. The Sipahis are all up-country men, of respectable castes, and are possessed of much greater strength of constitution than, what they contemptuously call the "rice-eaters" of the Lower Provinces. They enter the service full of hope, and with the certainty that if they retain their health, and their conduct be ordinarily good, they must rise to preferment they could not dream of obtaining elsewhere. Theirs is not a compulsory labor: they can obtain their discharge whenever they feel inclined. When the Sipahi gets ill, he has not only European medical attendance, and that of the best Native Doctors, but that also of an ample establishment of Hospital servants. If he has suffered severely from disease, he is sent to his home to recruit his health; and the hope of going there supports him through his illness. When he gets old or infirm from disease, he is invalided.

The prisoners, on the other hand, are most of them of the very lowest caste. They are generally men of debauched habits, who have led very irregular lives; mere boys there are amongst them who have not yet completed their growth; old men whose days of active mischief have long gone by; individuals whose violent passions have driven them to the verge of insanity, if not beyond the boundary;—the very scums of society enter our Jails. And are not people of so depraved a nature particularly predisposed to disease on being subjected to the restraints of a prison? Are they not much more so, even when at liberty, than are our orderly well-behaved Sipahis?

Many, as Mr. Hutchinson remarks, "are incarcerated for offences which we are apt to consider as emanating from the high and war-like spirit of the people;" but these are the very men into whose souls the iron enters most deeply. In their own eyes they have done no evil; but the *mens conscia recti* only aggravates what they deem their undeserved punishment. When such a one sickens, he attributes his illness to the "*ab huwa*" disagreeing with him. This preys upon his mind: he knows that he "can't get out," that he cannot visit his home; and where there was hope for the Sipahi, there is despair for the prisoner.

While two Native Doctors are allowed to a native corps; one, and that one generally of inferior education, is reckoned sufficient for a Jail containing double or treble the number of sick with a regiment; and, instead of being assisted by qualified attendants, he has to trust to the services of the prisoners themselves. Let it be remembered, too, that many prisoners are confined for life, and what is nearly the same, for 14 years; and that banishment is now very frequently a part of the sentence.

I can see no good reason why any comparison should have been instituted between the mortality among prisoners and Sipahis: they are so very differently circumstanced. Making due allowances, however, for such differences as exist, I maintain that the prisoners, particularly those of the country, exhibit very scarcely as small a rate of mortality as the Sipahis. The excessive mortality is in Bengal, and I regret that Mr. Hutchinson did not limit himself to an investigation of the causes of the greater

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* An editor might furnish the public in India with a feast of humourous anecdotes on the errors which sometimes occur in their own and their correspondents compositions.—EDITOR.

sickness and mortality in the Jails of the Lower Provinces than in those of Upper India.

Unless some marked difference can be pointed out in the management of the Up-country and Bengal Jails, it is clear that we cannot ascribe the greater mortality in the latter to the general prison discipline of the country. We must refer it to causes specially influencing the prisoners of the Lower Provinces.

The main causes of the comparatively great mortality in the Bengal Jails, appear to me to be the watery innutritious food of the people, and the humid climate. In comparing the inhabitants of the Upper Provinces with those of the Lower, we are immediately struck with the larger size, and more robust appearance of the former: we cannot help considering them a superior class of men to the "rice eaters." This superiority has generally been ascribed to the use of otta as food, and it certainly contains more nourishment than rice.

We invariably find that the more respectable the caste, and the better the food a native is able to procure, the less liable is he to those diseases which crowd our hospitals. When cholera prevails in a town, it is principally, and often solely, the very lowest classes who are affected. Those who are obliged to subsist on food of the most inferior quality, and the greater part of which is eaten uncooked. We have striking proofs of this influence in the different classes of prisoners in the Bengal Jails—witness Mr. Kean's statement adverted to in my former letter. In this view of that statement, I agree with Mr. Hutchinson, that it proves the favourable influence of a generous and invigorating diet; but I fear that we shall not get the Bengali to eschew rice, and their potations, till we get my respected friend Dr. R. Tytler as Governor-General without Council. I should say, that owing to the innutritious food, and moist climate of Bengal, the people have not the same strength of constitution the up-country men have, and are, in consequence, more affected by the general and occasional causes influencing the health of prisoners.

The principal general causes are, change in their mode of life; change of climate; the depressing passions; and all causes influencing the health of men congregated together, the effects of which we observe in the spread of endemic disease and contagions. Jail management can have little effect upon these: they are evils necessarily attendant upon imprisonment.

The most common occasional causes are referable to the feeding, clothing, working, and housing of the prisoners. Irregularities in all these are of daily occurrence in every Jail, and I confidently attribute them to the total want of European superintendence. The Magistrate is nominally in charge of the Jail; but, God knows, he has enough to do without it; even if it were not absurd to expect a man, whose services are valued at from 20 to 30,000 rupees a year, to devote any portion of his valuable time to Jail management; he might employ one of his assistants, but what can he know of such duties? By the time he knows any thing of the details he would be qualified for some more honorable appointment, and there would, again, be the curse of unconsidered change of the system. Magistrates, and even Assistant Surgeons, think themselves rather above taking upon themselves the drudgery of Jail management, and what is more, few of them are fit for it. How many of them are there who could not tell you the names of the different kinds of food in common use, far less distinguish good from bad, new from old. To get good and efficient superintendents, we must have recourse to European non-commissioned officers, men who have lived upon 8 or 10 rupees a month, who have, for many years, seen their victuals before they were cooked, and who, from experience, know good grain from bad. I would have a European Jail superintendent for the same reason that the natives prefer European superintendence for their indigo factories.

I have still a few remarks to make on the two grand causes that most influence the health of natives—the *ab huwa* and the *khana-peena*—climate" and diet.

Climate.—Moisture of itself appears to exert a prejudicial influence on the body, and I have already alluded to this as one of the causes of the great proportional mortality in the Jails of the Lower Provinces. We very rarely hear of an unhealthy spot that is not damp; but we are too apt to attribute to an ideal poison, what might readily be accounted for by causes more under our notice. The influence of exhalations from marshes has been a subject of remark from the most remote ages. The influence, too, of "the wind from the East," which the Scotch proverb, with much truth and a little rhyme, says "is neither good for man nor beast" has been felt by most of us. It is of a verity that ill wind which blows good to nobody. I recollect seeing somewhere the deleterious effects of moisture accounted for by the damp atmosphere withdrawing in excess the electricity from the body; and this accounts plausibly for many, if not all, the effects of moisture. How many of us must have experienced the comparatively comfortable feelings we have in damp weather by wearing non-conductor such as silk, &c.

Besides the general influence of moisture above mentioned, and of malaria, the natives suffer much from what we can but

call mere change of locality. We live such an artificial life ourselves, that, till the tone of our constitutions has been lowered by sickness, are little affected except by excessive changes, and are apt to underrate the influence of considerable changes on the natives. Where there is less stamina as in Bengal, it is a truism to say that the prisoners there will be less able to stand any change there may be; and that in those of zillahs having the greatest diversity of country and climate, the power of these changes will be proportionally increased. In 1833 cholera broke out in the Jail at this station, situated on the plains. Out of 105 attacked, 102 were Hillmen. Here we had both the want of stamina in the prisoners, and a great change of climate. Native officers sent from the plains into the perganahs from which those prisoners were derived, almost, without exception, sooner or later, lost their health. To the best of my recollection, instructions were given to Sessions Judges, some years ago, to send those prisoners they sentence to banishment to the Jails in the neighbourhood of the new road. A good many of them arrived here; but of those who came from Bhaugelpore, Maldah, Purneah, few I fear are now alive.

Diet.—It may safely be affirmed, that the less the food is subjected to the various processes of cooking, the more likely is it to retain any unwholesome property it may have received in its raw state. Much of the food of the natives is uncooked; the parched grain is nearly so, and the sutto they take in the forenoon wholly uncooked. Grain is very liable to be damaged in this country. It is exposed to the rain which we frequently have in the harvest season, and when stores are occasionally kept for a great length of time, for years perhaps, in under ground granaries which are not always well protected from damp. Grain stacked with the straw, as at home, keeps much better than when thrashed out, as in this country, on the field where it is grown. The straw, when put up to dry, protects the seed from getting damp and mouldy, and keeps it sweet for almost an indefinite time, should there have been no disease in the grain while growing. I observe this subject noticed in the November *Oriental Sporting Magazine*, with reference to the Vellagra and Bursautee. The former disease, late the "*mal del sole*", is now attributed to diseased or damaged maize. Bursautee is already, I understand, nearly unknown in the Central Stud, owing, every one says, to the introduction of oats as food instead of gram. The oats are kept in the straw, and given to the horses in that state, so that the grain is not only kept fresh, but is better masticated and more nutritious. These two advantages are perhaps of as much consequence as the change of grain.

We have all heard of the disease in the rye, and of the pernicious effects of the ergot on the human body; still more familiar to us is the smut, or dust brand in wheat, oats, and barley. The two species of uredo constituting the dust, and pepper brands have not yet been advanced, like the ergot, to a place in the Pharmacopia; but of their alarming prevalence, and of their noxious qualities, we are not permitted to doubt.

The facts laid before the profession by Dr. R. Tyttler prove uncontestably the great extent of sickness frequently produced among natives by damaged or diseased rice. It is to be regretted that he has brought this too prominently forward as almost the sole cause of a particular disease. People who will not take the trouble of inquiring into the truth of the Doctor's opinions, content themselves with a sneer at his enthusiasm.

Magendie instituted some experiments on dogs, to ascertain the effects of restricting them to food containing no azote. One very singular effect was the production, in every instance, before death, of an ulcer on the cornea. In natives I have seen similar ulcers which I could not help ascribing to the same cause.

The influence of inclemencies and irregularities of season in causing disease, by affecting the growth, and ripening of grain, and by bringing grain of inferior quality into request as food, is daily becoming an object of more attention in Europe. In this country where the inhabitants are almost solely granivorous, the subject appears to me to receive infinitely less consideration than it deserves.

December, 1835.

OBSERVATIONS

ON GASTROPERIODYNIA,

By Thos. A. Wise, M. D.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—As I have not seen any account, by European Physicians, of a peculiar disease known in this country by the generic term *sool*, I am induced to offer a few remarks on it, in hopes of drawing the attention of the profession to the subject.

Gastroperiodynia, or periodical pain in the stomach, often commences with symptoms of indigestion and heartburn, succeeded by a feeling of uneasiness in the scrobiculus, cordis slight and occuring at irregular intervals at first, and lessening gradually while the pain increases in violence. In severer cases, the paroxysm of acute pain generally occurs rather suddenly, when the stomach is empty; sometimes early in the morning, or three or four hours after dinner;

increasing slowly when the digestive process is finished, and the activity of abdominal organs has ceased.

The excruciating pain is confined to the pit of the stomach, particularly towards the right hypocondrium, although the neighbouring parts often participate, as the muscles of the loins, &c. The pain is of a cutting or gnawing nature; and during the paroxysm is intense, from which the patient generally obtains temporary relief from pressure. For this purpose he often turns upon his breast and places a hard ball in the pit of the stomach, on which he rests his body, and keeps rolling from side to side. A few days since I ordered an unfortunate person, in this position, to turn round for me to examine him; but such was the agony, that he could not remain without the soothing influence of pressure. As a substitute, he drew from under his clothes a piece of prepared bamboo, an inch in diameter, and a cubit in length, round at one end. This extremity he placed to the pit of the stomach while he rested the other upon the floor; and by bending the body over it, produced such a degree of violent pressure, that at first I feared he would injure himself, and even penetrate the abdomen. He continued in this position while I gained the necessary information of his state, and then returned to his former position, commenced rolling from side to side upon the hard ball, placed in the pit of the stomach, and his low wailing proved how intense were his sufferings and wretchedness. This was an acute form of the disease, and until checked by remedies, it occurred daily about 4 o'clock, and he continued in dreadful agony the whole night.

These paroxysms usually occur at intervals of a day or two, and remain from two hours to as many days, with occasional intervals of ease. During these accessions the state of the pulse, although full, continues slow and natural, and there is not usually more heat of body than is occasioned by the continual movement.

In the intermissions the patient feels well, and all the functions are performed as when in perfect health. The tongue is clean, but sometimes parched, appetite good, and alvine secretions healthy and regular.

So painful are the paroxysms of this form of the disease, that in the Sanscrit works on medicines it is supposed to be produced by the deadly weapon in the hands of Siva, the destroying power of the *triad;* and so incurable that when it attacks an individual, it is declared that even Siva himself cannot remove it. As a natural conclusion to such reasoning, those afflicted add what use is there in requesting the assistance of a Physician? It frequently happens that the unfortunate individual, in despair of being cured, commits suicide, as the only means left of relieving himself, and of propitiating the anger of the Deity. The same fancies have had a most pernicious effect upon the progress of medical knowledge; for instead of endeavouring, by unceasing exertions, to discover the cause and nature of the disease, with the means of alleviating the sufferings of the afflicted, the Hindoo Physician finds a ready excuse for his indifference and ignorance in what he declares to be the will of God.

In the Sanscrit medical works there are eight varieties of *sool*, usually described, and as they consider pain in general, and incurable diseases under this vague term, and have characterized them upon the same fanciful and erroneous theory, which unfortunately pervades all their works on medicine, I have obtained no assistance from these, in many respect, most interesting records.

I have not been able to obtain any certain evidence of the causes which produce this disease. It appears to be the effect of a combination, individually slight; but when occurring in a peculiar constitution, produces this distressing complaint. I have generally known it to occur in the young and robust male; but without being produced by any particular exposure to the weather, or owing to the quantity or quality of the food. The accession seems oftener to occur when the organs are in a state of inactivity, than from causes increasing the nervous susceptibility. I have not seen it in females, although there is no reason why they should not be also affected; but those of a nervous temperament in general are not so liable to it as might be supposed.

A more extensive and careful examination may lead to the discovery of the change in the nerves in this disease, which have hitherto eluded the research of the Pathologist.

The severe pain which occurs in paroxyms, the relief obtained by pressure, and the absence of participation in the circulating system, indicates, with sufficient accuracy, the nervous nature of the disease. But we are still unacquainted with the peculiar diseases of the large plexuses of the symphathetic nerve, situated in the scrobiculous cordis and its neighbourhood, with those of the 8th pair, &c. These nerves seem to be affected in this disease much in the same manner as we sometimes find those of the face, arm, thigh, &c. The resemblance of paroxysms of gastoperiodynia to those of tic-douloureux is marked, not only in the nature and severity of the pain, but in the means of relief, and the difficulty of curing both diseases. The severe paroxysms of otolgia, which so frequently occur in this country, some forms of asthma, colic, &c. form examples of the same species, varying more from the situation and nature of

the parts affected, than from any difference in the disease itself.

The diet I have found most efficacious in gastroperiodynia is liquid farinacious food, with boiled milk, which in some cases I have seen, diminish the violence of the paroxysms.

In strong and plethoric persons blood should be taken from the arm; and may sometimes be repeated generally, or locally, with advantage. During the paroxysms, pressure, heat, tinctures, ether, peppermint, anodyne, particularly opium, henbane and camphor, are of use in diminishing the severity of the pain.

During the intervals the oxyd of zinc and bismuth, carbonate of iron, sulphate of quinine, are all in some cases of use; but it must be acknowledged that the relief is often of a temporary nature; and in some cases diminish, in effect, or even seem to aggravate, and prolong the succeeding paroxysm.

I have found the application of moxa-blisters to the loins and fomentations only of use temporarily; and that the probability of effecting the cure of this disease by medicine, depends on the severity and frequency of the attacks, and particularly on the length of time the disease has existed.

GENERAL HOSPITAL.

PUERPERAL NEURALGIA.

12*th Nov.*—Mrs. S. Æt. 34, a stout English woman, had been confined 23 days previously and did not nurse her infant. On the 15th day she had gone out into service and was much fatigued for several days. On the 20th day complained of violent pains of the chest and abdomen, back and loins, shivered and vomited; these symptoms were succeeded by profuse perspiration, head-ache and costive bowels. She was promptly and fully bled then leeched; had the hot bath, and was purged.

The head-ache is gone, but there is universal tenderness of abdomen, inability in consequence to draw a long breath. The least pressure, even of the clothes, gives pain. Bowels much relaxed, urine pale, skin moist and warm tongue red and moist, pulse moderate, abdomen flaccid and distended; the pains follow the course of the colon; lochia free.

Habeat Enema. Domestic. Stat and

Rj. Calomel gr. viij.

Antimon. Tart. gr. i.

Pulv. cretæ comp. c. opio ℈ij. in chart viij.

One every three hours.

13*th.*—Bears pressure better, but full inspiration gives sharp pain; perspires freely; no head-ache or thirst; Tongue still red: alvine evacuation green and watery.

Ol. Ricini. ℥j, statim.

Continue the powders, 6 daily.

14*th.*—Stools a yellow frothy and mucus fluid; pains not relieved; no urgent symptoms. Hot bath, temp. 100, for half an hour; now.

Pulv. Jalap, c. ℥j.

Antimon. Tart. gr. j. At noon

Vespere.—Has been freely purged; some scybalous and offensive matters discharged; examination per vaginam discovers nothing unusual, yet the irritation is evidently uterine; the pains now occur in fits and pass off entirely for a time; they are confined chiefly to the lower belly.

Rj. Calomel gr. x.
Opii. gr. ij.
Ipecac. gr. j. } H. S. S.

15*th.*—Slept well, and was much relieved from pain; can draw a full breath this morning; pulse soft and moderate; skin moist; stools dark green, pulpy mucus.

Rj. Pulv. Scammoniæ c. gr. x.

Jalap, c. ℥ss.

Aq. Menthiœ ℥j.—Stat. Sumend.

Vespere.—Copious dark evacuation, with griping.

Rj. Pil. Hydrag. gr. x.

And Rj. Ammon. Carb. gr. viij.

Liquor Opii, qtts. 20.

Mistur. Camph. ℥j., to be taken at bed time.

16*th.*—The pain to-day seems confined to the diaphragm; breathing performed by the ribs alone; bowels open, pulse regular.

Repeat the draught, adding

Vin Colchici. qtts. xx.

Once in six hours.

Warm bath at noon, and Liniment. anodyn. and flannel roller to be applied afterwards.

Repeat the pill at bed time.

17*th.*—Bowels have been confined since yesterday; pains relieved; they are felt to-day in the shoulders, and upper and back part of chest.

Ol. Ricini. ℥j. Stat.

Repeat the draughts and pills as yesterday.

18th, 19th, 20th, 21st.—Continued the same medicines; the pains shifted about the chest; at times very acute, but gradually abating; no fever has occurred; alvine secretions healthy.

24*th.*—Has been quite free from pain for the last three days; the lochiæ are still copious and paler; feels well. Discharged.

Remarks.—Puerperal flying pains of this sort are very commonly the result of exposure to cold or fatigue. When unattended with head-ache, obstinate vomiting or costiveness; and when the pulse continues *soft*, however rapid, I believe that bleeding is not necessary and even hurtful. They generally yield to the powders recommended on the 12th, and one or two

free purges, the warm bath, camphor, and ammoniæ. Puerperal fever in its severe form is a rare disease in Bengal.

PEMPHIGUS SIMPLEX.

8th Nov.—Mrs. Fry, Æt. 26, a young healthy-looking woman, recently arrived from England, nursing an infant; has a vesicular eruption over the face and neck, and extremities. It consists of distinct bullæ of various sizes, from that of a pea to that of an egg, conforming a limpid transparent fluid without inflamed or elevated base; in other parts there are small erythematous patches slightly elevated, and brightly red; this appearance precedes the formation of the vesicle with much itching, the bullæ when fully developed, burst and discharge their fluid contents, then either dry off in a *scruff*, or form a thin scab, which falls off without leaving any mark. There has been little or no fever; the tongue is clean and moist. B. confined.

Ol. Ricini. ℥i. daily.

And solution. potass. sup. tart. ad lib with. Vin antimon. ℥ss. daily.

11*th.*—Several small vesicles inside of the cheek and on the tongue. Eyes are turgid, the eruption is more general on the chest and shoulders, disappearing from the extremities; new vesicles succeed the disappearance of old ones, but the intermediate skin is of a natural appearance, and the limbs are not swollen.

Continue the medicines.

15*th.*—Had a slight shivering fit succeeded by fever last night; there is little change in the eruption.

Calomel gr. iij.

Pulv. antim. gr. iij. to be taken three times to-day and

P. Jalap. c. ℥i. to-morrow morning.

18*th.*—Free from fever, fewer new vesicles appear; ankle slightly swollen.

Quinine. Mixture. ℥j. 3 times a day.

20*th.*—Rhubarb pills at night.

21*st.*—The eruption is rapidly drying Continue.

26*th.*—It has entirely disappeared leaving no trace but a slight discoloration where the largest bullæ were.

Remarks.—It is singular that so formidable looking a complaint should generally, as in this case, be attended with so little constitutional disturbance—a cool diet and medicine expectante seem all that is necessary in the treatment.

D. S.

SURGICAL CLINIQUE OF CAWNPOOR.

ENCYSTED TUMOUR OF THE LEG.

Gazee Kachee, Æt. 20, noticed the commencement of the disease 10 years ago by a small swelling opposite the tibia, which gradually increased until the present time, unaccompanied by pain until within a few weeks since when the part became tender at the point, corresponding with the small egg-shaped appendix, which conveyed the sensation of fluctuation. The tumor extended from the tubercle to the ankle, occupying the anterior and inner portions of the leg.

The limb being supported by Drs. Campbell and Menzies, who placed their fingers on the arteries as they were divided, an elliptical incision was made by one sweed of the scalpel, commencing from the point opposite the tuberosity of the tibia, and terminating at the instep, which was met at each point by a similar incision on the opposite side, and the tumor with its enveloping cyst dissected out.

Five arteries were seized by Weiss' artery forceps and secured with ligatures. The inner portion of the gastrocnemies and the whole anterior portion of the leg was laid bare, forming a rather unsightly wound, which was, however, completely covered when the integuments were brought forward in opposition, and secured by 10 interrupted sutures, straps of adhesive plaster, bandage, &c., adhesion by first intention, and the patient recovered without any unfavourable symptom. The hemorrhage amounted to about two pounds. The accompanying is a rough representation of the appearance of the tumor before the operation, and of the mass when removed, with an incision through the centre of its posterior part to ascertain its contents, which were of a mixed nature, partly fibro cartilaginous, partly resembling the structure of the brain with portions of dark colored pulpy matter and some serum.

OPERATION IN DEUX TEMPS.

Jhoomloo, Moosulmaun child, aged 7 years, in a delicate and irritable state, brought on by unusually severe suffering from the stone for about two years, whereby he had been greatly reduced, and his parents for the last ten days had despaired of his life, as he had become quite helpless, came to me for relief in November, 1834. The operation was undertaken as a last alternative, and at the earnest solicitation of his father. The straight staff and scalpel were the only instruments employed, and there was no difficulty until the introduction of the forceps. The lower end of the stone was repeatedly seized, and as often escaped from the grasp of the forceps, being evidently retained either by the firm contraction of the bladder, or by a portion of it being encysted. Finding my efforts unavailing and the child becoming much exhausted, the pulse rapid

and small, and profuse perspiration, I desisted from further efforts, administered a full dose of tincture of opium, combined with aromatic spirit of ammonia, and sent him to bed,—constant fomentations being applied. The above measures had the most happy effect. The child rallied, the anodyne and soothing treatment was persevered in, and on the ensuing morning the stone was removed in the following manner. An assistant seated on a chair placed the patient on his lap with his back towards him, bent and raised the knees by introducing his arms under the hams, the perineum being lowered as much as possible, the body kept in the erect position, so that the stone might gravitate as much as possible towards the lower part of the wound. Introducing my finger, I felt the calculus which was immediately seized by the forceps and withdrawn. One extremity of the calculus had been lodged in a *cul de sac* of the bladder, as was evident by the form of the stone being of smaller diameter than the rest, and having a clearly defined neck, where it had been compressed apparently by the separated fibres of the muscular coat of the bladder, which with the spasmodic action of the bladder in so irritable a subject, satisfactorily accounts for the impediment. I have not the slightest doubt that had I persisted in my efforts to remove the stone, the child would have expired on the table, and the expediency of procrastination on the occasion is thus exemplified. Difficulties in Lithotomy do sometimes occur when least anticipated, requiring all our self-possession and deliberate reflection, and these occasional difficulties, I dare say, gave occasion to the exclamation of Abernethy. "Oh! egad, 'tis an horrible operation. You don't know what you may be doing."

With reference to your correspondent Lithotomy *versus* Lithotrity and his respondent, I would observe that the natives of India, from my experience, infinitely prefer the cutting operation to the other. It alarms, fatigues, and discourages them. After I had perforated the stone in a patient, of which one or two more sittings might have accomplished the destruction, he became most earnest for the operation of Lithotomy, which he said afterwards he infinitely prefered to the former operation. The recently improved apparatus of Baron Hourteloup, however, and Mr. Weiss will, I doubt not, be a great desideratum, and I am most anxious to obtain one with the intention of using it for adults. Civiale's *virgule a trois branches* is a defective instrument. Whilst the majority of cases in the proportion of five-sixth's occur in children, the time for "exploding Lithotomy as one of the relics of a barbarous age" is not yet arrived as expressed by your worthy predecessors. "*In medio tutissimus iter,*" is probably the motto for this and most professional debates.

Since writing the above, I have received from Superintending Surgeon Smith, a set of Lithotrity instruments, which for simplicity and great mechanical power, bids fair to become a most useful instrument, in all cases above the age of puberty, and if the Board were to order some to be made, by native workmen, on the pattern of a smaller size for children, (I would respectfully suggest) I see no reason why the operation should not be undertaken at the earliest age at which the disease occurs.

TROUBLESOME HÆMORRHAGE.

From a bone after amputation.

Communicated

By Mr. Badderly,—

To the Editor of the India Journal of Medical and Physical Science.

On the 23rd December, 1835, a gunner of the horse artillery, in the act of springing his staff, had his fore-arm so shattered by the sudden explosion of the gun, that it became necessary to amputate it above the elbow joint, which was performed 20 minutes after the accident.

A troublesome hæmorrhage supervened; and, on opening the stump 2 hours after, to discover the source, i twas found to originate from the medulla of the bone, from which joint was seen an arterial stream of the size of a small crowquill, which resisted a variety of methods adopted to check it, nor was it till after the marrow had been destroyed to the depth of $\frac{1}{4}$ of an inch by the actual cautery, that the bleeding entirely ceased.

1st January, 1836.—No recurrence of the hœmorrage; stump suppurating.

REVIEW.

TRANSACTIONS OF THE MEDICAL AND PHYSICAL SOCIETY, VOL: VII. PART II. CALCUTTA, THACKER AND CO: 1835.

OBSERVATIONS ON DRACUNCULUS BY A. DUNCAN, ESQUIRE PRESENTED JULY 5TH, 1834.

Opinions of medical men on the nature, cause, and management of Dracunculus have been as various and conflicting as on the nature, cause, and management of our most virulent epidemic diseases. Larrey is of opinion that it is merely a phlegmonous inflammation and swelling, arising from the failure of the operation to extract an imaginary worm, and that the filament con-

Bretts case of Encysted tumour of the leg.

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tained in furunculus, is nothing more than dead cellular substance drawn into that form through a hole in the skin. Dr. James Johnson also states that when removed from the body it exhibits no appearance of life, even when extracted at one operation, that it is elastic, white, transparent, and contains a gelatinous substance. It is, however, attempted to be proved by later experience among medical men of erudition and talent, chiefly on the Bombay establishment, that this is a species of living worm. Some believe that it belongs to the tribe Filaria, others to the Gordii. Good says that it is often found larger than a horse hair, sometimes twelve feet long, that it winds and burrows under the cuticle chiefly in the naked feet of the West Indian slaves. Mr. Bird (Bombay Est.) says that the belief that the filamentous body called a Dracunculus is a true and perfect animal, is consonant to experience. M. Obsonville extracted a worm from his own leg. It appeared, on examination with a common magnifying glass, to be formed of a series of small rings, united to each other by an exceedingly fine membrane, and a single intestine extended through the body. In one case which occurred to Mr. Bird, he remarks that it came out from the skin of the size of small twine and that the next day there was nothing external to the opening but a fine hair-like filament. This, in Mr. Bird's opinion, was probably the intestinal part, the outer walls of the animal having been broken down. Dr. Mylne of the Bombay Establishment, supported in his views by many others, argues that the disease is an affection of the absorbents, and not a living body; and Dr. M. recommends, that the disease be named by a new nosological term—the "Lymphatitis." In opposition to these views Dr. Kennedy (Bombay Est.) states that from the natives he had learnt that their belief, through all ages of which they have record, has been, that the disease is occasioned by the generation under the skin of a living animal, whose larvæ are deposited there externally, or drunk with water. They shewed the worm itself, which they looked upon as the deposition of this larva, it was a reptile about six inches in length, and of the thickness of a horse hair. In describing its habits they stated that it generated in stagnant waters or marshy grounds. Dr. Kennedy quotes from the Edinburgh Medical Dictionary the doctrine of the Arab Physicians that the Dracunculus is a diseased tendom or nerve. By the research we have been able to make we find that the name of "*Medinensis Vena*" was given to it by the Arabians, who called it Vena, because they doubted its being a living animal, and Medinensis, on account of its being frequent at Medina. Dr. Chisholm considers it a worm which is generated in the water of such wells as are in the vicinity of the Sea, and are dug in a volcanic soil; and he thinks that the animal is received into the human constitution in its embryo state by drinking this water. Dr. Helenus Scott, (Bombay Est.) observes, that, in its first state, it has the appearance of a horse hair, as when breeding in water, or marshy grounds, Dr. A. J. Robertson, of the same Establishment, observed a filamentous worm, in every respect like the guinea worm, which, while stationed at Bhewndy, in the southern Konkan, during the rains of 1822, was brought in by a bheestie to an officer's bungalow. He describes it as having been very lively in the water, fully twelve inches long; and the bheestie on being interrogated, gave it the common native name Nharroo. Dr. Smyttan, Bombay Establishment, says that it has been satisfactorily proved that these animals find their way into the body only through the stomach, the ova being contained in the water drank. This Physician implicitly adopted this opinion of their origin, first from observing that the officers suffered in an equal proportion with the men, though not like them exposed to go about with naked legs on the wet mud, on which occasion they are commonly supposed to find their way into the body—and next from the length of time the animal takes to be matured in the body, which could scarcely be the case, in that physician's opinion, did they enter in the animalcula state. Dr. Smyttan was confirmed in his opinion by the post mortem examination of a gunner, in the abdominal cavity of whom were found two full grown guinea worms, one

of them attached to the peritoneal covering of the liver, the other (which was writhing, and alive) in a similar way to that of the left kydney ; but otherwise floating loose among the viscera. Dr. Smyttan had never before heard or known an instance of these worms being found in any of the internal cavities ; he thought that they could only find their way through the circulation, and, he believed they had been found in all other parts of the body, as far as the cellular membrane extends, which was generally supposed to be their place of abode. Dr. Chisholm admitted that they may sometimes enter the body through the skin, to use his own term "in the state of animalcule," as well as by the stomach, in form of ova ; but the analogy of other worms infesting the human body, would not, in Dr. Smyttan's opinion, bear that physician out in ascribing this double origin to the guinea worm ; nor did it appear to him at all necessary when it was considered that a complete annual revolution is requisite for their development in the body. The circumstance of their greater frequency in the extremities, may, in Dr. Smyttan's opinion be satisfactorily explained by ascribing the diminished activity of the circulation, and the obstacle to the return of the blood from the position of these parts, by which any extraneous particles (such as the ova of the guinea worm may be supposed to be) contained in this fluid are the most readily deposited or entangled in the minute vessels. Our Physician believes in this remarkable theory ; for he had never observed that bheesties or water carriers more frequently have the guinea worm in those parts which come in contact with the leathern water bag as some had written, nor did it appear to him that they are in any degree more subject to them than other descriptions of people. Dr. Smyttan alludes to the opinion of authors who have declared that they have not observed any thing like animal motion after extraction from the body. We may mention that the very term Dracunculus is derived from ρδαχαν serpent, from the circumstance of its having the motion of one. Dr. Smyttan, however, ascertained the fact in the case of two officers that they possess considerable migratory motion previous to extraction from the body. In the first (Lieut. F.) the worm could be distinctly traced under the skin at the top of the left shoulder ; by and bye it found its way to the elbow, where it was as distinct ; and, of course in a few weeks made its way, by gradual progress, to the wrist, where it was extracted. In the other case (Lieut. S.) the worm was first observed under the skin on the inside of the biceps, about the middle of the humerus : it found its way to the elbow joint; and, bye and bye, was very distinct half way down the forearm. Here it remained stationary for some time, and at length retraced its course to the inner condyle of the humerus, where it was extracted. It was extremely lively after extraction in Lieut. S——s' case. Mr. Bird alludes to two cases in which the worm was extracted alive. A worm, Dr. Kennedy states, to have been extracted by Dr. Maxwell of Guzerat, which being placed in luke warm water, moved about in the presence of several officers who were invited by Dr. M. to witness it. Dr. Kennedy, with a view of obtaining satisfactory proof of the worm living after extraction, offered a reward to any Hukeem (native physician) of Baroda who would in his presence extract a worm whole, a patient was brought to him, and the operation performed in his house. The worm lay in the hollow of the back, over the spine of the dorsal vertebræ, and was distinctly to be felt through its whole extent. The extraction was performed slowly. A portion of the integuments was first taken up with a tenaculum, and cut off with a razor, so that instead of a long incision, a small circular opening was made over the middle of the worm, capacious enough to receive a small pea. The operator continued with his hook to take up small pieces of intercellular substance, which he cut off in the same manner until he laid the reptile bare. During this process so far from calculating on the inertness supposed by Dr. Scott, he evinced the greatest apprehension of wounding the worm, and still more afterwards of breaking it. When he had fairly exposed it, he introduced a flexible silver probe underneath it, and drew

it into a fold, and holding the ends of the probe bent together in one hand, whilst with the other he continued to rub the integuments over the extremities of the worm, he very cautiously and gradually drew it forth. Four people saw it alive. Dr. Mack came in after the operation, and saw the worm crawling on the floor: he kept it alive several days. This worm was eleven inches in length, rather thicker than a crow quill, it moved with a serpentine motion, and not in the vermicular by shortening and elongating its rings, it was perfectly smooth, and of a pale pink colour, which became of a deeper hue after two days contact with atmospheric air. Dr. Lind, in allusion to it at Guinea, states that it is a white, round, slender worm which breeds in the flesh often some yards in length lodged in the interstices of the muscles commonly in the legs feet or hands. Mr. Bird says that it is found in clayey soils after the rain. From the disease appearing to be peculiar to Matoongha in the Monsoon, during the wet season, he thought it probable that it deposited its ova in the legs of the soldiers, for which it has abundant opportunity, from the almost universal practice of these men going about bare-footed in the wet weather. This gentleman controverts the opinion that the ova of the gordius is introduced through the medium of the circulation. He states that during a hot season some men employed about his bungalow were affected by dracunculus. These people belonged to the village of Wanooree a place notorious for the guinea worm appearing every hot season among the cultivators : the soil about Wanooree is a black vegetable mould. Mr. Bird says that the different species of gordius have probably an annual existence, and decay; where they are inhabitants of the soil, on the fall of rain. He observed that the germ of the disease required some considerable time to develop itself and is of opinion that the ovum of one season is not hatched till the next. Dr. Lind states that Dr. Ronppe a Dutch physician believed it to be infectious. Sir James Macgregor acquiesced in that opinion, and reports in his medical sketches, that this malady prevailed very much on the voyage from India to Egypt, both among the troops and seamen ; and it was only by separating the sick from the sound, and by a very strict attention to cleanliness, ventilation, and fumigation, that he was able to arrest its progress. Dr. Thomas attributes its appearance to the embryo of the worm having punctured through the skin and lodged in it among the men previous to embarkation. Dr. Mosely takes the same view of the cause, and says that there is as much foundation for supposing the guinea worm to be contagious as that a thorn in the foot is contagious. Dr. Chisholm, as we have before mentioned, considers it a worm which is generated in the water of such wells as are in the vicinity of the sea, and are dug in a volcanic soil ; and he thinks that the animal is received into the human stomach in its embryo state by drinking this water. Dr. Kennedy avers however that Baroda is more than fifty miles from the nearest coast, and yet the disease in question is to the full as much endemic there ; as Dr. Chisholm discribes it to be in the island of Grenada. Dr. Scott made enquires into the nature. of dracunculus in Malabar and Dr. Kennedy in Guzurat; whence it may be seen that along the coast for 800 miles all castes and classes of natives join in one opinion as to their breeding in water or marshy grounds. Dr. Smyttan says that at Matoonga Bombay about the last week of May, or the first week of June, a case or two of the guinea worm generally appears, and from that time numerous cases continue to occur throughout the rainy months of June, July, August, and September. The European officers and soldiers suffer equally with the gun lascars ; nor are the women and children in the barracks exempted from it. After careful observation Dr. Smyttan adds that the guinea worm never appears in men previous to their second year of residence : a complete season appears requisite to render them susceptible, or rather to maturate the animal for the process of extraction. This gentleman observes however that in the adjoining continental tract called the Kon-

kan it prevails chiefly in the hot and dry months of March, April, and May. Abbé Dubois mentions that in the central parts of the Madras territory, it prevails in December, January, and February. Dr. Scot (Madras Establishment) states however that at Madras the species found is totally white and opaque. Dr. Morehead (Bombay Establishment) believes that all the localities in which Dracunculus prevails are in districts the rocks of which are of the secondary trap series, *i. e.* rocks reputed by geologists to be of igneous origin. He is confirmed in this opinion in allusion to Dr. Scot's report that the men in whom Dr. S. had met the disease were from the banks of the Toombudra and Mahratta country, where the secondary trap series commences, which extending northwards, forms the table land of the Deccan. Dr. M. verified the trap rocks at Belgaum ; but he had no accurate knowledge of the geology of the intermediate country. In the Deccan, he says, the disease prevails in the villages about Bejapoor, Sholapoor, Akulkote, Meritch, Tazgaon, Fultun, Baramuttee, Jejooree, Poona, Ahmudnuggar, Aurungabad, Jalnah, and he believed, Nagpore. The country between the western ghats and the sea coast, from, he believes, Cape Comorin to some where about the latitude of the Bancoot river, is composed of conglomorate rocks with a red vesicular iron-shot clay basis. Sometimes the imbedded masses are few, and the rock then consists principally of the red iron-shot clay. This rock Dr. M. has verified at Vingorlee, the fort of the Ramghat, Malwa, Jyghur, and also extending over the table land of Mahabuleshwar hills. At Vingorlee this rock rests on granite, syenite, or other primitive rocks. At Mahabuleshwar it rests upon a table of basalt. So far as his information went, Dracunculus did not prevail, or at least is very rare, throughout these red conglomorate districts. Dracunculus, according to the above authority, is occasionally met with in the districts around Neemuch. The secondary trap rocks of the table land of Malwa nearly approach these districts. Col. Tod, in his work on Rajpootana, mentions that Dracunculus is very prevalent in some parts of Marwar. Dr. Morehead made many enquiries for the gordius at Kirkee, but it was not known to the villagers. The 4th Light Dragoons however suffered from Dracunculus at Kirkee : also at Neemuch during March, April, May, June, and July. Nearly 300 persons were affected ; during six years 72 were admitted a second time and 6 a third time. When the disease began to prevail in the 4th Lt. Dragoons the men were instructed to examine their legs ; and then many came to the hospital, in whom the only indication of the worm, was a waved substance under the skin, resembling to the feel a piece of white cord, very generally unattended by any sense of uneasiness ; or any consciousness of the existence of any thing anormal.

Having thus shewn so many various opinions on the nature and cause of Dracunculus, we proceed to trace all that is written worthy of notice regarding its cure. Sir James MacGregor states that the native practitioners are much more successful in getting out the worms than Europeans. After long feeling with their fingers for the body of the worm they make an incision as nearly as they can judge over its middle, and pulling the worm by a duplicature of it, draw out both ends at one time. Dr. Thomas states that when the inflammation is very considerable, there is often much fever present, but by breaking the worm, from being in too great a hurry to extract it, large abscesses and ill conditioned ulcers are formed. In a few instances mortification has ensued, and very large sloughs have been cast off ; alarming hæmorrhages have also occurred. Frequently after extracting one worm from a patient, a second, a third, or even a fourth worm appear ; and after getting one out of one leg another may be observed in one or both hands or in the other leg. While the tumour remains in a hard indolent state it is necessary in Dr. Thomas' opinion to keep an emolient poultice constantly applied to it, in order to bring it to a speedy and proper suppuration, when it breaks, and

the head of the worm protrudes so far as that it can be laid hold of with care, a piece of cotton rolled up like a quill is to be tied to it, and as it advances it is to be daily twisted gently round until the whole is extracted. Dr. Chisholm recommends that an internal use of mercury is highly necessary; and in order to destroy the insect in its ova the remedy must be employed so as to pervade the system. Dr. Lind observes that the swelling occasioned by the worm is like a boil attended with great pain until its little black head appears in a small watery bladder, on the head of the boil. When this bladder breaks, the head of the worm is to be secured by tying it to a small roll of linnen, spread with plaster and part of the worm is once or twice a day to be gently drawn forth. Dr. James Johnson is of opinion that when the head of the worm becomes apparent, it should be seized by the forceps, and pulled very gently and gradually until there be a little resistance and the worm become moderately tight. The extraction is to be facilitated by friction with warm oil, and well adjusted pressure in the line of the worm towards the wound. When as much of the animal has been drawn out as the resistance and pain will admit, the end of it should be secured by a ligature or thread passed round it. The thread should then be tied to a piece of small bougee, and then the slack part of the worm is to be rolled up, until it be moderately tight. A piece of sticking plaster to retain it in its place and poultices to be continued to promote the expulsion. Sometimes in this way a foot of the worm can be extracted at once. M. Larrey recommends snipping off the end of the worm close to the opening on the skin and then promoting suppuration by fomentation and poultices. Mr. Scot states that freezing cold water over the parts hastens the extraction. Mr. Bird avows that friction with mercurial liniment has considerable power in relieving tension, and promoting suppuration. Dr. Smyttan states that he has in a few instances, where the animal could be traced under the skin in fleshy parts, speedily and safely extracted by making a small aperture in the skin over it with a lancet. It is only in a few cases however that this practice is applicable. An old Lt. Colonel related to Dr. Kennedy an anecdote which made a strong impression on his mind. He was on the march with a sepoy battalion in 1791 proceeding up the ghat, in the first campaign against Seringapatam. During their route a Seedy (an African) stept out of the ranks, and, pointing to a rapid stream of water, requested permission to go thither, in order to relieve himself of a worm in his ankle after the manner that he had seen practised in his native country. The officer granted his permission, the man unbound a bandage from his foot, loosened the worm (of which part had been extracted) from the cloth round which it was secured, and plunged his naked foot into the current. The regular and gentle force of the running water was sufficient to draw out the reptile and extracted the worm almost immediately. This explains Dr. Kennedy's system of treatment which is to immerse the limb in a bucket filled with water of the lowest temperature, and fastening a string of soft silk to the protruded end of the worm, he attaches a small weight to it, and suspends it over the back of a chair, the weight keeps the worm in a state of tension and acts with a gentle uniform extracting force. Dr. Morehead states that it was the practice of Mr. Wilkins, when he found the worm like a cord under the skin, and previous to any other indication of the disease, to select a favorable situation, and cut with a lancet parallel to the worm and on exposing it to pass a thread underneath by means of an eye probe. Where the part was fleshy, and also in many cases about the ankle, the extraction was speedily effected; sometimes in less than an hour, and the patient was cured.

Thus have we for the benefit of our readers who have no resource to medical libraries traced, out the foregoing full account of the nature, causes, and management of Dracunculus, to prepare them for the consideration of the paper we are now about to examine. Mr. Duncan writes from Bhewndy, a place situated 33 miles nearly

north from Bombay. The district is on a trap formation, the soil and pools abound in the rains with a worm, small and more slender, but otherwise exceedingly like Dracunculus; but to which Mr. Duncan gives the native name Nharoo. To quote the words of the writer, he states as follows.

" A single native regiment is located there. It appears that on their first arival, the men are but little, if at all, afflicted with it ; that by the end of the second rains the cases are numerous, and by the third, the number is still further increased. Whether this increase is indefinite I know not; but I was informed of a singular or, at least, of a most curious circumstance, viz. that at one period, the disease wholly disappeared, and again, after a few years, to the dismay of the inhabitants, it re-appeared. For the truth of this statement, I cannot vouch; but it was circumstantially detailed to me, and it merits investigation."

This statement is probable enough ; for it was remarkable, as stated by Dr. Morehead, that in H. M. 4th Dragoons in Kirkee, in 1827, they had not one case in the regiment during that year, in 1828 they had 8, in 1829 they had 6, in 1830 16, in 1831 only 4 ; but, strange to say, in 1832 no less than 211 cases appeared. But after the controversy as to the question of the vitality of he Dracunculus, Mr. Duncan comes forward with something altogether novel.

" I have heard the Nharoo was filled with living young ones. That a knowledge of this fact is not coeval with the use of magnifying instruments in the hands of those who are conversant with the disease, is an instance of the slow progress of human investigation. I did not apply a microscope for the purpose of examining the matter, till I had heard of this ; and when I did, I was astonished—the white matter filling the inner tube like thick cream, is a mass of living young ones. It requires dilution to permit them to be distinctly examined. They are very lively.—I measured many of them, and found them to be about the 57th part of an inch in length, somewhat like in shape to the tadpole of a musquito, but *much*, very *much* smaller, and more slender in proportion to their length; fully a third consists of a fine extremity like a sting ; they swim after the head, but can fix their slender extremity to an opaque substance, and work the body to it. They have a dark line, in some two, running along the length of body ; I suspect it is always two, but approaching so near, that from their rapid motion I could not always make it out. When disturbed they coil themselves up as a snake does, and lay as if dead for a short space, and then cautiously unroll themselves, and begin to play again. I have now a number on a microscopic examining glass in a dry state. The water of dilution was allowed to evaporate, and they of course died.

Out of, I think, two Nharoos, the young ones had double tails, which they separated and reunited with great rapidity ; in the latter state it appeared exactly as one, these were rather thicker in the body than the other. I took for examination Nharoos which I extracted by excision, or by the slow method, (in the latter case they were often dead ;) or a quantity of the white substance that oozes out of the end of the Nharoo when it spontaneously makes its appearance. That white substance is, as I have said, a myriad of young ones."

Dr. Morehead states that his opportunities of seeing the entire worm had been great. One end he says is sharp and pointed the other terminates in a small hook. This hooked extremity is described by Cuvier as the tail, and is looked upon by that naturalist as the generic mark of Dracunculus. Mr. Duncan is not a man of research on this subject or he would have known that our knowledge of the guinea worm is coeval with the use of the microscope. But according to our author, a miscroscope was not necessary, as we shall shew presently. In the mean time we may mention that Dr. Morehead alludes to the use of the microscope, and prefaces his remarks on the result of his examinations by stating that the worm when first removed by extraction is lax, not elastic, nor stiff, but generally quite clean and transparent. The milky opacity and stiffness quickly follow exposure to the air or plunging the worm in water. The opacity depends on a change in the contents ; because those squeezed from an opaque worm quickly extracted, were of a green colour. The empty tegument was transparent, tough, and when stretched, resembled coarse fishing gut. Dr. Morehead states that a small transverse section divided into two portions by a longitudinal section through the streaks, and one piece put into the glass-box of a small microscope, the external tegument towards the eye when viewed through a 6000 magnifying power exhibited the following appearances. Fibres round, transparent, silvery, distinct, separate, lightly tortuous, arranged longitudinally. Somewhat less to appearance than a horse hair. The inner coat exposed to the eye, and viewed through the same magnifying

power. The longitudinal fibres seen distinctly, but as if they were connected with a tissue of transverse and otherwise distributed fibrils, or seen through a coat composed of a tissue of such arranged fibrils. The conclusion, however, to which Mr. Duncan arrives are as follows.

" 1st, That when the time of producing its young has arrived, it then exerts itself, to get out of its nidus.

2nd. That the young are capable of fixing themselves to an appropriate substance, and working themselves into it.

3rd. That the period of growth from the animal's birth to the procreation of its young is somewhere about 12 months.

4th. That the irritation produced by a broken worm is to be mainly attributed to the young ones. If it be said, that it is extraordinary that of such a multitude of young ones so very few should live in the human body, I can only admit the fact, and conjecture that t he chief cause of their destruction is the excessive supuration caused when a number of them escape internally. I have examined the purulent matter of many of these abscesses, and found the young animals sufficiently plentiful in it, but I do not know that I ever found any alive, or at any rate I found none in the lively state they exist in other circumstances ; hence I suppose pus is an improper vehicle for them to live in, and that the extensive suppuration is a means to prevent their excessive multiplication in the body, and when externally, the parts around are in a state of inflammation. But whether this state is an improper one for them to penetrate, I know not ; it is however, I have some grounds to conclude, not at all unfrequent for Nharoo to succeed Nharoo, though the length of time which elapses in its growth may make it doubtful in very many cases whether it is the produce of the last one or received externally.

I have had multitudes of these creatures alive in water for six days ; the majority of them however died before that time, and few lived beyond it ; they gradually became dull, and die lengthy and not coiled, as is the case when they die more suddenly. I did not see that any lived for a fortnight. I brought a few in water to the Medical Board one day, to exhibit them there; they were of those that oozed out of (or were expelled from) a worm, in its making its spontaneous appearance. I raised them on a bit of glass, and put them into a phial with water."

The foregoing is bringing this long debated question to a conclusion with a vengeance against Larry ; Mylne ; and their followers, (nay even Cuvier himself who describes the gordius to be without setæ and to have no external organs for respiration) who were so long contesting the point whether there was such a thing as one living Dracunculus. But here Mr. Duncan shews his millions. " After what has been said" observed Mr. Duncan.—

"It is surely supererogatory for me to state, that Nharoo, in my opinion, is a living animal. It has the power of locomotion, as I have often witnessed. Indeed I have known it occur in more than one case in the living body ; it has been, for instance, quite obvious to the sight and touch, like a cord under the skin, and I have delayed cutting down upon it till the next visit, when it could not be seen, and scarcely discovered with the utmost care by the finger. I have also more than once taken a whole one home wrapped in a bit of paper, and have had it moving about in a tumbler of water for an hour and more. It can be excited to move anew, when it has become quiescent or very sluggish, by alternating the water to rather hot and rather cold. Throwing either a whole one or a piece of one tied at both ends, and wounded, into a clear phial of water, affords an excellent mode of seeing the young ones with the unaided eye, or aided only by the effect of the rounded glass and water ; they are discharged in a whitish stream, and when the force of the ejection is exhausted, they can be seen swimming about in all directions."

Now what will Dr. Mylne have to say for himself?—True ; he was a superintending surgeon when he ventured on such bold averments. We know the time it takes to reach that grade in India ; then our vision is not the very clearest ; no wonder, therefore, he did not see the "*young ones*" with the "unaided eye." But to proceed with Mr. Duncan ; he goes on to distinguish the sexual organs of the worm ; but here he fails.

" It has been said that this animal is separately male and female. Of this I know not ; all the large ones that I have examined have been full of young ones, and the small ones I took to be imperfectly grown.

The very small ones of eight to ten inches, I have only had out of diseased men. and I do not recollect out of any but those who had been previosly affected in the usual way.

If my opinion be correct, that the young animal can work its way into an appropriate receptacle by its pointed extremity, it affords an easy solution to the supposition of Mr. Clot, (and others, and the fact mentioned by him,) that attendants on patients, and also dogs moving about them get the disease."

Mr. Duncan gives nothing new as to the treatment. In the appendix to this volume of the transactions are some cases by Mr. Twining of Dracunculus, which appeared in the General Hospital of Calcutta. The subjects of them were Arab merchants ; but there is nothing novel either in their description or treatment.

CONSTITUTION
of the
MEDICAL DEPARTMENT
HONORABLE COMPANY'S SERVICE.

We proceed to trace the history of the medical department, in the Honorable Company's army, in order to point out remedies for such defects, as may appear to exist in this service; keeping in view, at the same time, the economical system at present so strictly pursued by Government. In the propounding of measures for improving this department of the service, it is not our intention to recommend unnecessary expenditure from the revenue. It has been advanced by the political writers of the day that the British Indian service in all its branches, is modled on as extensive a scale as that of the richest and most civilized countries in Europe, that it has a standing army which in point of discipline, numerical strength, and all the materiel of modern warfare, not inferior to the best equipped army in the world: while the civil administration, in its various departments,—political, judicial, fiscal, and executive, is conducted by a numerous and highly paid body of functionaries. We do not feel ourselves authorized to concur in the whole of these sweeping assertions; for it would be contrary to facts to consider every branch of the service as well paid. That there is a numerous body of functionaries handsomely remunerated, there can be no doubt: but there are however others —the most useful, indispensable, labourious, and talented, who have scarcely a bare subsistance.

No one, we are sure, will attempt to dispute thatupon the materiel, the numerical strength, and the discipline of a standing army in India, as well as upon the morals, talents, and education of the individuals who fill the various civil and military offices of the state, rests the preservation of our eastern possessions. To secure the services of such men, it is evident, that they should be better remunerated here than in any other part of the world; because being mere sojourners, and not indigenous to the country, their only object in coming to it is to secure an independance, and to quit it again as soon as possible. If this position be just, we shall shew by figures and facts that the medical department in this highly favored service, is not in the possession of these alluring prospects. In 1770 it appears that the Court of Directors were not very particular as to the class of men they selected for the care of the sick in the civil and military branches of their service; they were ordinarily men who called themselves surgeons of private traders. These were appointed as surgeons on the establishment, and what is worse, rose to become a Board of Examiners who had the power to pass all future candidates for situations of the civil and regimental surgeons; for we find that it was resolved in 1784 that all assistant surgeons appointed by the Court of Directors or admitted in the service by the Board were to be examined by a Committee of Surgeons consisting of the Surgeon-general, and two or more Surgeons of his nominating from the civil and military surgeons doing duty at the Presidency; and that in passing such examination, which of course did not involve any considerable difficulty, certificates of qualifications were granted by the Surgeon-general, which credentials entitled them to admission into the service.

We understand one person passed this Board who had been a butcher on board of an Indiaman, and was so ignorant that he signed himself "Sergeant" instead of Surgeon; another person at a later period was actually sent home to be educated; whilst a third was invalided for declaring his inability when required to amputate. It is obvious, therefore, that there was nothing alluring in such a service at that time, and that gentlemen would not risk expence and education by entering it. In fact circumstances tended rather to discourage candidates; for in 1784 we find an order which directs that supernumaries were to depend upon their private practice until vacancies occurred in the service; as, in permitting surgeons of any description to proceed to India for the purpose of practicing their profession, it was not the intention of the Court of Directors that the surgeons should, immediately on their arrival, receive pay.

Their allowances were to commence on being appointed to some station in consequence of vacancies. This state of things could not last long; but the effects which followed were sufficient to demonstrate the impolicy of the measure which proved to be as injurious to the service as it was inimical to humanity. In 1795 the Court of Directors therefore commenced to put their medical department upon a more respectable footing. Previous to the admission of any medical gentleman in their service, they required that diplomas from one of the leading colleges of London, Edinburgh, Glasgow, or Dublin be produced.

Simultaneously with such requisitions the local Government gave to regimental surgeons contracts for the purveying of Hospitals, and the supply of Europe and bazar medicines. In consequence of this arrangement some of the surgeons, from a state of absolute distress, soon found themselves in the receipt of enormous salaries: for such was the paucity of surgeons at this time that several offices fell to the lot of one individual; and for each of them he received a full allowance. It however so happened that, at large stations, the senior surgeon alone was to assume charge of regiments or detachments without surgeons, and receive the whole of the emoluments.

In Lord Lake's camp such were the enormous receipts in consequence of these contracts for supplying corps with medicine, diet, and dhoolees, that Doctors Monroe and Cockrane especially realized the largest fortunes ever made in this country.

The intelligence of the realization of such brilliant fortunes in India was not slow in reaching all parts of Britain. Gentlemen of the first families sent their sons to study medicine; the Indian service therefore was soon filled with as accomplished and able men as were to be found in any part of the world. Indeed such was their literary acquirements, that many were employed in the political department, while the press of India and houses of agency were principally conducted by them. We trace further proofs of their medical abilities by referring to several medical works written some thirty or forty years ago by Wade, Balfour, Macklean, Fleming, Assey, and Wilson. But these prosperous times were not to continue long. In 1815, while the medical service of H. M.'s army, as we have shewn, was undergoing great improvement, by encouraging men of respectability and talent to enter it, the Court of Directors commenced to adopt the very opposite policy; and the local Government notified that the contract system was to cease, and an allowance granted in lieu of it; which, to those in charge of European regiments scarcely afforded a fair remuneration for length of service and laborious duties. The native regiments yielded no reward to a full surgeon, but as he possessed the allowance of a regiment some years previous to his promotion to that grade, medical gentlemen were still content, and men of education and respectability have continued to come out and fill the vacated ranks. From this period it would have been prudent and sound policy to have pursued a system which had been found by experience in the king's service to be expedient, namely, that of progressively improving the situation of the medical servants of the state.

The system of the Indian Government, however, we regret to say, seems to be diametrically opposed to it; for in 1828 a most alarming blow was given to the prospects of every medical man throughout British India, by a further reduction in their allowances; and although in 1830 some favorable modifications were made as regards full Surgeon's allowance, still the junior members of the service were generally left on a rate of pay and allowance which barely met expences. In a future number we shall endeavour to show to the Indian Government the probable result of this policy. In doing so, we trust we may be allowed respectfully to urge on their attention, that our labours are as much for the honor of the Government as they are devoted to the welfare and prosperity of the governed, and in our endeavours to elevate and better the condition of an honorable, talented, and benevolent body of men, we feel confident that we are permanently securing them to the service of this country, and are therefore faithfully discharging our duty to the state.

FROM THE MEDICAL QUARTERLY REVIEW.

For 1835.

ON THE DISEASES OF THE CHEST, AND ON MEDIATE AUSCULTATION.

Of late years, the original cylinder of Laennec has been turned and fined down into a delicate and portable tube, neatly tipped and inlaid with ivory : this modification, introduced by M. Piorry, is, we are glad to perceive, not approved by Dr. Forbes : it is faulty in having the conducting power of the wood impeded by screws and a thick cap of ivory, and he is of opinion that the one last used and recommended by Laennec is still the best, " with the only alteration of having the stopper made conical, in place of being rounded."

Within the last few years, the indefatigable researches of M. Piorry have brought percussion, as a means of diagnosis. very much into notice. M. Piorry employs percussion in a mediate manner : the following is our annotator's account of it.

" This improvement consists in interposing between the point of the fingers and the chest a small plate of ivory on which the percussion is made ; and from which circumstance, the inventor has, in imitation of Laennec, given the name of *Mediate* Percussion to his method. The ivory plate (which has received the name of *Pleximeter* or *Plessimeter*, from the words πγὴσσω, *I strike* or πλῆξις *percussion*, and μέτρον, *measure*,) is of a circular or ovoid shape, from an inch and a half to two inches in diameter, and about one sixth of an inch in thickness. It has either a raised edge or rim, or projecting handles, on its upper side, to permit its being held between the finger and thumb of the left hand, while it is struck with the right. In making use of this instrument, all that seems essential is to apply it accurately, closely, and consequently parallel to the surface. As in simple percussion, the blow may be made with one or more fingers, and must be rapidly executed, with the points but not the nails of the fingers ; on this account the nails must be kept short. The pleximeter may be applied immediately on the skin or over some portion of the clothes; and, as in the case of the stethoscope, it is necessary on some parts to interpose a small pledget of lint or soft linen, to ensure its accurate apposition." (P. 23, *note*)

The pain which is frequently attendant on immediate percussion, constitutes one of the principal objections to it, and is entirely obviated by M. Piorry's invention. Mediate percussion has also the advantage of enabling us to percuss in all parts of the thorax, and obviate many of the difficulties of percussing where the integuments of the chest are fat or anasarcous. M. Piorry considers that mediate percussion is much easier, and requires much fewer precautions than the old method. " In direct percussion, we must never lose sight of the rule that the percussion must be made precisely in the same manner on the two opposite sides of the chest, to enable us to deduce safe conclusions from the resulting sounds." This precaution is unnecessay with the pleximeter, because we have here always the same flat, smooth surface whereon to strike, and an artificial wall everywhere, of equal density and elasticity.

Dr. Forbes mentions a more simple kind of mediate percussion, which is fully deserving the attention of the student.

" This consists of the substitution of one or two fingers of the left hand for the pleximeter, the *back* of the fingers being uppermost. This proceeding possesses several of the advantages of M. Piorry's method ; and it has even some few over it, exclusive of its greater simplicity. In cases where there is considerable emaciation, M. Piorry's method is liable to mislead, unless the intercostal spaces are carefully filled with some soft material ; as, without this precaution, the sound may be modified by the hollow existing between the plate and the skin. Direct percussion on the ribs, or the employment of the fingers and pleximeter, is often, in such cases, preferable. If we are careful in applying the fingersso as to make them fit accurately into the natural depressions, and thus form one body, as it were, with the thoracic parietes, we are often enabled to use very forcible percussion without exciting pain, and also to elicit as definite sounds as by either of the other methods. This proceeding is free from another inconvenience which occasionally attaches to M. Piorry's method, especially in the hands of beginners. In the latter it sometimes happens that the loudness and sharpness of the primary sound arising from the contact of the two surfaces, are so considerable (particularly if the *nail* be used, which it ought never to be) as to drown, as it were, the secondary sound resulting from the modifying influence of the subjacent parts, from which modification it is that we form our judgment respecting the condition of those parts. When the fingers constitute the pleximeter, we have little or none of this immediate *clatter* when the blow is given." (P. 24. *note.*)

Under the head of Ægophony, that remarkable phenomenon of the voice which is heard in thoracic effusions, we find a note, by M. Meriadec Laennec, in which it is stated that " M. Reynaud has ascertained that, if an ægophonous patient lies on his belly, or leans forward, so as to bring the body into an almost horizontal position, not only does the ægophony disappear from the interscapular region, but is replaced by a bronchophony, of a greater or less intensity, according as the lung is sound or in a state of inflammation. In the latter case, as the ægophony vanishes, the crepitous rhonchus, or the bronchial respiration, re-appears. From this M. Reynaud infers, that ægophony is merely a remote bronchophony,—that is to say, a bronchophony heard through a layer of fluid, of greater or less thickness." Such of our rea-

ders as may be familiar with Laennec's work will not fail to remember the experiments which he performed relative to this subject. He applied a bladder, half filled with water, between the scapulæ of a young man, who presented a well marked natural bronchophony in this point. "In this case," he adds, "it appeared to myself, and several persons present, that the voice, as transmitted through the liquid, became more acute, and also slightly tremulous, although less decidedly so than in real ægophony." From this it is obvious that Laennec's opinion as to the cause of ægophony was not very dissimilar to that lately expressed by M. Reynaud.

In speaking of the sound which is denominated *frottement ascendant et descendant*, or, according to the interpretation of Dr. Forbes, friction of ascent and descent, Laennec conjectured that, besides the interlobular emphysema, of which he considered it the pathognomonic sign, there was another lesion, which might give occasion to this sound of friction, viz. the existence of a cartilaginous, bony, tuberculous, or other indurated tumour, projecting from the surface of the lung. How far this conjecture was well founded, will appear from the observations of M. Reynaud, as detailed in the following interesting note of M. Meriadec Laennec.

"Subsequent observations have enabled M. Reynaud to establish the fact which Laennec only conjectured. The sound of friction is perceived in every case where the pleura is rough or uneven. It exists in pleurisy with little or no liquid effusion, and were the pleura is merely covered with a false membrane: and likewise in cases where the fluid is only in moderate quantity, and the free motion of the lung is not impeded by ancient adhesions. In this last case, when the lung, in certain positions of the body, rises above the level of the effusion, and rubs against the thoracic parietes, the sound of friction is heard immediately over this point. When the effusion becomes considerable, it disappears, and again returns when the fluid is lessened. In most cases the sound is perceptible by the application of the hand, as well as by auscultation: it may even be heard at some distance from the patient; and sometimes it is very perceptible to the latter. The sound of friction is not, it will now be perceived, exclusively confined to the case of pulmonary emphysema: it is met with in pleurisy, and may be regarded as a good sign, since it indicates that the effusion is not so great as to prevent the lung from being dilated, so as to reach the walls of the chest. Neither does it appear, as Laennec immagined, to be different in the two cases. I am even disposed to believe, when it exists in emphysema, this affection is complicated with pleurisy. In confirmation of this I may state, that in the notes of Laennec's own cases taken by myself, I find, almost always, this complication expressly named, where the sound of friction is recorded. The same observation applies to M. Reynaud's third case (Journ. Hebd. No. 65) and even Andral bears testimony to the accuracy of M. Reynaud's views. (Clin. Med. t. ii. p. 613, 2d Ed.)

"The foregoing pathological facts led M. Reynaud to examine whether there might not exist an habitual friction between the pulmonary and costal pleura in the state of health. And this seemed established by *a priori* considerations, namely, by the invariable formation of an accidental serous tissue wherever a false joint or accidental movement is established, and by the obliteration of the articular serous cavities on the abolition of all motion of the parts. With the view of proving the fact M. Reynaud made an experiment on a living animal, and believed that he could distinctly perceive the motion of the lungs against the ribs during inspiration and expiration. In the state of health, the sound produced by this friction of the parts is not perceptible, owing to the slippery smoothness of the two membranes, or is confounded with that of the respiration; but when the natural condition of the parts is altered by inflammation or any other cause, it then becomes manifest. (See Journ. Hebdom. de Med. No. 65,)—*M. L.* (P. 58, *note.*)

Pulmonary Apoplexy.—This name was given by Laennec to that morbid condition of the pulmonary structure which is consequent on extravasation of blood into it. "From its exact resemblance," he says, "to the effusion that takes place in the brain in apoplexy, I have thought the name Pulmonary apoplexy very applicable to it, as it resembles, in every respect, the cerebral hemorrhage commonly termed apoplexy." There are some who, in their hypercriticism, object to this term, inasmuch as there are no *symptoms* analogous to those of cerebral apoplexy; yet we have ever thought that the suddenness which characterizes the hæmoptoic seizure, and the prostration which follows, are by no means inconsistent with the designation "apoplexy;" and when we add to this the similarity in organic changes, we cannot reject a term which so completely associates this disease with one which in its essence is precisely similar. This similarity, or "perfect analogy," has lately been completely established in a thesis by M. Roupel (*Recherches sur les Hemorrhagies*, Paris, 1827,) and in the recent Treatise on Apoplexy, by Cruveilhier, (*Dict. de Med. et Chir.*, art. *Apoplexie.*)

"We may observe" (says Meriadec Laennec,) "in the lungs, as in the brain, and indeed in most of the other organs, the three forms of hæmorrhage, viz.—1. *The blood-stroke, (coup-de-sang,)* an instantaneous and universal congestion without any escape of blood from the vessels; of this form the lungs offer an example in the case of asphyxia, in which the pulmonary tissue, without losing its wonted crepitation on being handled, is coloured of a dark red hue, and pours out, when incised, a profusion of fluid black blood. —2. *Apoplexy*, properly so called, such as is described in the text, and varying from simple infiltration to the largest coagula of blood with rupture of the vessels and laceration of the organ.—3. Slow hæmorrhagic infiltration or splenisation, in which the tissue of one whole lung or one lobe slowly and progressively penetrated by blood, assumes a darkish red colour, and becomes smooth, heavy

homogeneous, and friable as the spleen, with the organization of which it presents a resemblance more or less close. This last variety of pulmonary apoplexy is common in old persons who have been long confined to bed in one posture. It is also observed after diseases of an adynamic kind, whether acute or chronic. The splenised portions are sometimes softened partially or totally, being converted into a sort of blackish paste, which we might mistake for the effect of putrefaction. In some cases these portions are intermixed with spots of the inflammatory hepatization, recognized by their red or yellowish colour, and which contrast well with the dark ground of the general mass.—(*M. L.*)" (P. 172, *note.*)

It is a doctrine now very commonly received, that pneumonia most commonly attacks the lower lobes of the lung; and upon this Laennec founded one of his strongest arguments against the Broussian doctrine of the inflammatory origin of tubercles which, it is universally admitted, have a marked predilection for the upper lobes. It does not appear, however, that the subsequent experience of MM. Andral, Chomel, and Frank, which has been referred to in a note by our translator, very fully confirms this opinion of Laennec. Andral found that, out of 88 cases of pneumonia, the inferior lobe was affected in 47, the upper lobe in 30, and the whole lung in 11; and Chomel states (*Dict. de Med.*) that, in 59 cases, the upper lobes were affected in *thirteen*, the lower in 11, and the whole of one lung in 31, the posterior parts in two, and the middle in one; and Frank says, "Frequentius forte *superiores* pulmonum lobos inflammators deteximus."

The greater frequency, however, of the occurrence of pneumonia on the right side than on the left, as stated by Laennec, and before him by Morgagni and many others has received the fullest confirmation. Andral found that, out of 204 cases of pneumonia, the right lung was affected in 121 cases, the left in 58, and both in 25; and Chomel says, that, in 59 dissections, the right lung was affected in 28, the left in 15, and both in 16. Lambard states that, of 868 cases of pneumonia, 413 were on the right side, 260 on the left, and 195 on both. Dr. Forbes adds, "The general result of these cases is, that, out of a total of 1131 cases, the right side was affected in 562 the left in 333, and both in 236. Taking these results in round numbers, and approximating and assuming them to give a fair view of the general habitudes of the disease, we would say that, out of every ten cases of pneumonia, we might expect five, or one half, to be confined to the right side, three to the left, and two to extend to both.

Of all the stethoscopic signs, Laennec regarded the *rhonchus crepitans* as the most practically useful, inasmuch as it points out, in its very earliest stage, one of the most common and most severe diseases. In this we have no doubt, every practical physician must agree with him; yet it is to be remembered, that pneumonia may be present, and yet *rhonchus crepitans* absent. This is Chomel's opinion, who likewise states that this *rhonchus* may be present in cases where the existence of inflammation is extremely doubtful. Cruveilhier likewise greatly undervalues this sound as a sign in pneumonia, especially when compared with those of bronchophony and tubary respiration. M. Meriadec Laennec makes the following judicious remarks relative to the doubts that have been expressed by some as to the value of the *rhonchus crepitans*.

"The doubts of men so eminent as Andral, Chomel, and Cruveilhier, demand from us some investigation whether there may not exist certain circumstances calculated to produce mistake respecting the value of the crepitous rhonchus. In the first place, it is possible that the obscure mucous rhonchus may be mistaken for it, the more so because the two are nearly allied both in their cause and character, and are, in truth, not easily discriminated by the most experienced. Secondly, the crepitous rhonchus may have been really hard during life, and yet no trace of inflammation be found after death, because this has taken place during the stage of resolution of the pneumonia. Thirdly, pneumonia may actually be present and yet the ronchus be wanting, from the circumstance that the respiration is too feeble to force the air into the engorged vesicles, owing to the age of the patient, or the debility produced by preceding disease. For an analogous reason, of an opposite kind, the crepitous rhonchus may be sometimes perceptible when there is no pneumonia; in the case of children, the extreme power of whose respiration may excite in their diminutive bronchial ramifications a mere mucous rhonchus with bubbles as small as those which constitute the crepitous.—(*M. L.*)" (P. 195, *note.*)

Since Laennec's time, morbid anatomists have been much occupied by researches into the nature and mode of development of tubercles, especially as they appear in the lungs. We proceed to inquire whether any, and what, advances have been made towards the acquisition of correct views respecting the pathology of this disease.

According to Laennec, tubercle first appears as a miliary granulation, supposed by Bayle, to be a production different from internal; an opinion likewise maintained by Andral and Chomel. The second stage was that of the miliary, the third the crude, and lastly the encysted tubercle. Laennec, it will be remembered, also thought that miliary tubercles were accidental productions, possessing a proper vitality, and growing by intussusception. When the tubercle has arrived at the stage of crudity, its next tendency is to become soft and fluid. "The process," says Laennec, "begins in the centre of each mass, and gradually increases the tuberculous matter, becoming daily softer and moister cheesy, at least unctuous to the touch, like soft cheese, and finally acquires the viscidity and fluidity of pus." These views have however been objected to by several pathologists, most of whom regard tubercle as the result of a morbid secretion, which may be excited or promoted by inflammatory action, but occurs more commonly in consequence of a general predisposition, congenital or acquired; and which predisposition seems, in its turn, to be the result, at least most frequent-

ly, of an altered condition of the fluids: The original opinion of Bayle, respecting the distinctness of pulmonary granulations from tuberculous matter, is maintained by those pathologists, especially Andral, in opposition to that of Laennec, who considered them to be related to each other as green fruit is to ripe fruit. (P. 255.) Andral regards these granulations as the result of very limited pneumonias, and does not admit the existence of the grey tubercle of Laennec; the change of structure to which that name has been applied, being a mere variety of chronic inflammation within which true tubercle is frequently developed, though by no means as a necessary consequence.

M. Rochoux, following some observations originally made by Dalmazzone, concludes that tubercle of Laennec is neither an accidental production nor a secreted matter, but a degeneration or transformation of a healthy tissue into a morbid one; and Dr. Baron, whose opinion is supported by Dupuy, of the Ecole Vétérinaire at Alfort, contends that all tubercles are, in their origin, transparent vesicles or hydatids; upon which M. Meriadec Laennec remarks, "This opinion is evidently that of a man little versed in the researches of pathological anatomy, and more conversant with slaughter-houses than dissecting rooms, who has not been able to discriminate the distinctive progress of each of two morbid alterations frequently coexisting." (P. 258.)

Dr. Carswell coincides with Andral and Cruveilhier as to the formation of tubercle by secretion. He offers an explanation of the apparent commencement of softening in the centre, by supposing that the tuberculous matter is deposited from the mucous lining of the bronchus, and encloses in its centre some of the mucous secreted by that membrane. When this is cut, the mucous appears as a soft point in the centre of the tubercle, which Laennec regarded as the commencement of the softening process. In some instances no such appearance is visible, and in these cases the bronchi or air-cells must have been completely filled with the tuberculous deposit. Dr. Carswell questions the correctness of the term "*encysted*," the immaginary cyst being nothing more than the walls of the air-cell in which the tubercle is deposited.

It may well be doubted, then, whether any addition has been made to our knowledge of the anatomy of tubercle subsequently to the time of Bayle and Laennec. That which most baffles our efforts is the primary origin of these formidable morbid productions; and although, in reasoning analogically, there seems to be strong reason to consider the theory of the *secretion* of tubercle the correct one, yet we want demonstrative evidence of the fact, and probably shall ever continue to want it, as regards this as well as all the other secret operations of nature. Although much has been added to the statistical details respecting phthisis, we see no progress towards such a mode of treatment as will eradicate the disease: the curability of it, however, is now fully established and admitted, and we are thus in some degree encouraged to proceed in our efforts to arrive at some more powerful method of therapeutics.

Application of ausculation to the diagnosis of diseases of the heart and great vessels. It is well known that even the sounds afforded by the normal action of the heart's cavities can hardly be said to be perfectly understood. The difference naturally paid to so accurate an observer as Laennec led physicians too much to take for granted the correctness of the statement made by him respecting the heart's action. However it was ere long discovered that his hypothesis was inadequate to guide the physician in his diagnosis of heart disease, and numerous researches were undertaken in support of various theories. There are but two sounds audible, the one rapidly follows the other, and then a marked interval of repose is manifest. One of these sounds is synchronous with the impulse of the heart against the parietes of the heart against the parietes of the chest: these, then, are the phenomena which demand explanation. The first sound which is heard after the interval of repose is that which accompanies the impulse, and this is supposed by Laennec, Hope, Rouanet, and Carlile, to be caused by the ventricular *systole*. Dr. Hope, ascribing the generations of the sound immediately to the collision of the particles of fluid in the ventricles; M. Rouanet, to the closing of the metral and tricuspid valves; and Mr. Carlile, to the rush of blood into the arteries, consequent upon the systole of the ventricle. But by Corrigan, Pigeaux, and Magendie, it is thought to occur during the *diastole* of the ventricle; the two former of the writers attributing it to the rush of blood into the ventricle, impelled by the auricle; and the last, to impulsion of the apex of the heart against the chest, by the ventricular diastole. The second sound is attributed by Laennec to the systole of the auricles, in which opinion he stands alone; by Hope, to the *diastole* of the ventricles; by Magendie, to the impulsion of the *base* of the heart against the walls of the chest, by the *systole* of the ventricles; and in this view he coincides with Corrigan as to the coincidence of the second sound and systole. Pigeaux ascribes the second sound to the collision of the blood against the walls of the aorta and pulmonary artery; and Carlile, to the reaction of the blood in the arteries on the similunar valves, at the moment of the ventricular diastole; but Dr. David Williams thinks it is caused by the flapping open of the auriculo-ventricular valves against the side of the ventricle.

Such is a brief statement of the diversity of opinion respecting the indications afforded by the phenomena of the heart's action, which we think is sufficient to show that the question is still *sub judice*. It will be seen, however, that the greatest number of observers are in favour of the isochronism of the first sound and systole of the ventricles, although these writers differ in their methods of explaining in what way that sound is generated. The same may be said of the second sound, as occurring at the moment of the diastole of the ventricles.

DR. CLARK ON TUBERCULAR PHTHISIS.

By the gradual progress of the physical and mechanical sciences, and particularly by the more extended study of natural history, medical writers of during the present century, have observed facts and deduced inferences with more success than at any former period in the history of our art. Fine-spun theories, which ingeniously accounted for every thing, and too often elevated exceptions into rules, have been almost universally abandoned; and, instead of disputing about proximate causes, or the vital principle, the medical philosophers of the present age have directed all their attention to the facts presented to their observation, whether they refer to the causes and symptoms of diseases, or to the action of remedial agents.

In giving a clear and succinct description of the information to be derived by observing the respiratory movements, and by the employment of auscultation and percussion, Dr. Clark concludes with the following paragraph.

"By adopting this plan of careful investigation on being first consulted, we do not hesitate to express our conviction that the greater number of cases of turberculous phthisis would be discovered at a much earlier period of their course,—often, we are satisfied, many months, nay even occasionally years, before they now are, from the careless manner in which this class of patients are too commonly examined. Until we adopt a more minute and methodical system of inquiring into the history of the case, and, in addition to the usual symptoms of pulmonary disease, avail ourselves of the light afforded by auscultation in the most extended sense of that term, turbercular disease of the lungs can rarely be detected at such an early period of its progress as will give reason to hope that its further advancement may be prevented. In the present superficial mode of conducting our inquiry into the nature of such causes, the disease of the lungs has often made considerable progress, when the patient is said to be merely threatened with it; and tracheal or bronchial irritation are the terms employed to account for symptoms which a close investigation would trace to a deeper source. We must not be satisfied with a few rough and slovenly thumps on the upper part of the chest, or even with the use of the ear or stethoscope for a few seconds, applied as if he were afraid, rather than desirous of ascertaining the real condition of the lungs. Such superficial examinations, if they deserve the name, are worse than useless: with (semblance of doing something, they really expect nothing, unless it be to deceive the patient and his friends, and bring this method of diagnosis into unmerited disrepute. Nature will not be interrogated in this rude manner: her operations must be observed with care, and studied with attention, before we can hope to interpret them with fidelity and precision." (P. 31.)

A perfect knowledge of the condition of the lungs, and the symptoms which arise in the course of the disease, are both subjects of very secondary importance, when compared with the study of those causes which produce the scrofulous diathesis, and of the means by which it may be removed, or the deposition of its products prevented. We may be able to detect the smallest vomica,—we may have examined hundreds of turberculous subjects,—and we may employ all the balsams, astringenti, and fumigations, recommended for ulcer of the lungs by the ancients, with all of iodine and chlorine inhalations that have been added to the vast furrago of phthisical remedies by the moderns; we may diet our poor patient, feed him on beef-steaks and porter; still the grand result will remain the same: society will have to lament the loss of almost an equal number of her members. We ought not, of course, to be ignorant of the subjects just mentioned; on the contrary, it is only by our perfect acquaintance with them that we can hope to gain the confidence of our patients, and the respect of our professional brethren. The enlightened medical practitioner, however, feels that his duty is but half done when he can only detect organic disease, and mitigate symptoms: the grand object of his ambition ought to be the prevention of disease, the diminution of the general mortality, and the extension of the mean duration of human life. In relation to these questions, the immense importance of increased attention to this disease has never till now been brought before the public, with the force it deserves. Organic disease, depending on a modification of the whole economy, are, with a few exceptions, developed slowly; and are almost constantly produced by the action of external causes, which may be detected by a little attention, and then very generally avoided or removed. Whoever considers this with due attention, will not attempt to deny that tubercular disease, which now carries off, in one form or other, more than one sixth of the inhabitants of Europe, before they reach the prime of life, might become comparatively a rare disease.

But, before we can hope to see this most desirable end accomplished, many changes must take place in the very commonest usages of our lives; for the disease is so extended, and the causes which produce it so various, and so interwoven with our customs and habits of life, that no great diminution can be effected till the science of hygiene is more sedulously cultivated, and its principles more widely diffused; in fact, not till the attention of the public has been fully awakened and directed to these points for a great number of years. The man who could convince the world of the possibility of preventing the development of tuberculous disease, by efforts which should begin before the formation of the fœtus, follow the infant through childhood and youth, as our author has done, and, for the sake of posterity, relax not till the last hour of existence, would render a greater service to mankind than even the immortal Jenner. But it is to be feared we shall long hope in vain: the bad effects of neglect in this instance follow the causes at too great an interval, and the physician will therefore find much reason as the moralist, to lament the innate propensity

of man to prefer present ease and pleasure to future health and happiness. With all the highly-boasted diffusion of knowledge in the present day, it is surprising to find the means of preserving health so entirely neglected. We are much afraid that a great portion of the reproach must be laid on the medical profession: had its members instructed the publice as they ought, the care for posterity would have extended beyond the vain ambition of transmitting to it wealth and honours, which without health, are but a gorgeous mockery. We hope that a new era is approaching, and that these subjects will be studied as they deserve.

Our author begins his account of the causes of turberculous disease by considering the influence of hereditary transmission, and takes great pains to show that a deposition to tubercels may be communicated to the offspring, not only when the parents actually labour under the disease, but also the various other morbid states of the parent may have this effect upon the offspring. Of these, disease of the digestive organs is the most powerful.

"Of all diseases, we consider dyspepsia the most fertile source of cachexia of every form, for this plain reason, that a healthy condition of the digestive organs, and a proper performance of their functions, are essential to the due preparation of the food, and consequently to the supply of healthy nourishment to the body. The adjusting powers of the system may do much to correct a disordered condition of the different functions concerned in the process of assimulation, by means of the increased activity of the healthy organs; but the system cannot long continue in a healthy state when any one important function connected with nutrition is materially deranged. Without, however, entering into this most interesting subject, we consider it an established fact, (it is so at least to us,) that dyspepsia, and any other disease which induces a cachectic state of the parent, shows itself either in the tuberculous constitution of the children, or in their strong tendency to become the subjects of those disorders which generate such a constitution,—such as that form of dyspepsia which has been denominated *strumous* by Dr. Tood."* (P. 53.)

Of all the forms of hereditary transmission, the author consideres as the most common, though the least generally understood, that where the child is merely predisposed to functional derangement, capable of generating the tuberculous constitution.

The injurious effects of *deficient exercise*, *excessive labour*, *improper clothing*, *want of cleanliness*, *abuse of spirituous liquors*, *mental causes*, and, lastly, the question of *contagion*, are treated in succession. The author concludes this subject with the following summary.

"Reviewing what has been said respecting the causes of tubercular cachexia, they may be stated generally to comprehend all those circumstances which debilited and increase the irritability of the system, impede the due digestion and assimilation of the food, diminish the various secretions and excretions, and induce internal sanguineous congestion. Defective assimilation, from whatever cause it proceeds,—which ever be the first link in the chain of morbid processes,—induces according to our view, turberculous cachexia and whether the primary error exist in the inadequate supply of food, or in the incapacity of this organ to extract from this the elements of nutrition, to assimilate and apply them to the reparation, growth, and various purposes of the animal economy, the ultimate result will be the same." (P. 56.)

The causes which determine tuberculous disease in the lungs are next described. They are divided into two classes: 1st, those which act immediately on the organs, as bronchitis, pneumonia, hæmoptysis, and some other pulmonary affections. Bronchitis and pneumonia have some effect as exciting causes, only when the constitutional diathesis pre-exists. The second class of causes act partly on the lungs, and partly on the general system: such are fevers, and more particularly those of the eruptive kind, as rubeola, scarlatina, and variola.

"In whatever point of view we may regard tuberculous cachexia, we shall find its phenomena explicable only by admitting that it depends on a general modification of the whole and every part of the animal economy; and that all notions which regard it as the morbid degeneration of any organ or tissue, or of any particular system, or the morbid modification of any single fluid, are necessarily erroneous, and founded on limited views of its nature and laws, and totally inadequate to explain its phenomena." (P. 60.)

Our author remarks, that the remote causes of phthisis, however variously they may operate, do so by inducing some positive pathological conditions, which, being constantly present wherever tuberculous disease is formed, may be regarded as necessary to its production that, in the actual state of physiology, and pathology, all these conditions cannot with certainty be defined; still that it would not be difficult to point out some of the more important links of the chain which connects special functional disorder with the formation of tuberculous cachexia; and he refers to a "congestive state of the venous system of the abdomen," as constituting one of the most obvious and important of these pathological conditions in a practical point of view.

His views are the result of practical observation, that a disposition to this congestive state of the abdominal circulation constantly exists in strumous children; that it is, besides, a precursor of tubercular cachexia; and that it presents itself more under the form of dyspepsia, and its concomitants, in the middle period of life, often obscuring the pulmonary affection; tubercular phthisis rarely occurring at this age without this complication. Our author refers to the authority of many German physicians of the last century, to the opinions of Kæmpf and his disciples, and to the observation of Portal, on this subject, with whose labours he was not acquainted till he had himself, from his own experience, arrived at the same conclusions.

* See Cyclopædia of Practitional Medicine, article *Indigestion*, for a masterly account of dyspepsia under its various form.

"Abdominal plethora," our author says, "when once established, gives rise to a series of deranged functions in the digestive organs, the lungs, and the skin, which, by impeding digestion and assimilation, affect the whole animal economy. These are manifested in imperfect biliary secretion, constipated bowels, and irritated mucous surfaces, in congestion of the lungs, and a dry and harsh state of the skin.

"In consequence of the overloaded condition of the venous system, the heart, generally feeble in the tuberculous constitution, is oppressed, and the arterial circulation impeded and enfeebled. In this state of the system, very slight exciting causes induce disease, especially inflammation and hemorrhage: hence arises the constant liability of strumous subjects to inflammatory diseases of a subacute or chronic character; and hence also we derive an explanation of the hemorrhage to which they are peculiarly liable even at a very early stage. The same pathological state of the abdominal circulation forms the remote cause of the various congestive and chronic diseases, so common in the strumous subject; such as glandular swellings, cutaneous eruptions, &c."

As the tubercular cachexia and phthisis so often occur about the period of puberty, the author under this head gives an account of the remedies for the cure of this morbid state of the constitution, and for the prevention of phthisis. "The utility, however, of these remedies is not confined to this period of life: they may be employed at any age, almost from infancy, when the circumstances of the patient indicate their use; and some of them, although ranked among preventives, are often applicable in the early stages of phthisis." He divides them into *alteratives*, *purgatives*, *tonics*, *bathing*, &c.

Of the first class, mercury will be found a very valuable remedy, when the secreting functions of the liver are disordered; but if, on the other hand, it be carried beyond its alterative effects on the hepatic system, it seldom fails to prove injurious. Taraxacum is considered "a very valuable remedy, from its power of diminishing abdominal plethora, and its special influence on the urinary and biliary secretions." The opinions of several distinguished German writers are quoted in its favour, and good practical hints are given as to the best mode and time of administering it. He has found sulphureous waters a valuable remedy, when the strumous constitution is complicated with cutaneous affections, especially "when the skin is coarse and dry, and the whole constitution of a torpid character; but, in the more delicate class of strumous patients, with a thin skin, the use of sulphureous waters requires much caution."

Mineral waters, the author is of opinion, are superior to all other alterative remedies. "The operation of these invaluable remedies may be so directed as to promote all the secretions and excretions, to influence the functions of almost every organ, and improve the condition of the circulating fluids."

Of the general remedies, venesection is first considered, and the peculiar practice of small and frequent bleedings, adopted by Dover and others, is discussed. The author believes that general bleeding would seldom require to be repeated, if proper attention be paid to the regiment, and to the diminution of the abdominal plethora; and that local bleeding, by cupping on the chest, is the most effectual way of relieving the inflammatory action accompanying tubercles, after one or more general bleedings have diminished the congestion.

Our author insists strongly on the efficacy of emetics, and numerous authorities are quoted in their support. He thinks their action may be accounted for, on rational principles, by the new views of Dr. Carswell* respecting the seat of tubercle, and earnestly recommends their use, as holding out "the rational hope of being made one of the most efficient means of preventing the localization of tuberculous disease in the lungs in many cases, and perhaps removing it in some others.

ESSAYS AND DISSERTATIONS ON POINTS OF MEDICINE, AND SURGERY, BY DR. RUST.

The following observations on the use of plasters are remarkably judicious:

"This remedy is far too much neglected in modern surgery, which more frequently employs inunctions, which in many cases are of inferior efficacy. A plaster is a powerful remedy, and yet its healing powers are usually better known to old women and quacks than to physicians. This superiority to inunction partly depends on the plaster being a more permanent application; but there are other circumstances on the same side of the question to be taken into account, provided the plaster be properly applied. The fault, however, is often committed of judging of its powers as a remedy from the materials of which it is composed; and if these powers do not agree with the principles laid down by writers on the Materia Medica, the remedy is rejected as inefficacious, without considering that there the form in which the remedy is applied produces the effect rather than the medicinal substance, and that, through the various additions which the physician thinks himself obliged to make to the ordinary plaster mass, it ceases in fact to act as a plaster.

"The essential effect of a plaster is derived from its acting as a cover through which perspiration cannot pass; and thus it causes a continual irritation of the skin, while it protects the diseased part from all injurious external impressions. It is through these properties alone that it becomes an important remedy, and the better it is adapted to answer these views, the more efficacious it is usually found to be. If then a plaster is to act, it must be prepared of a strongly adhesive, and not easily penetrable or soluble mass; it must be spread upon thick linen, or, what is better, upon thin leather; and it must not be too small, but, on the contrary, be larger by the breadth of a finger than the diseased part

* Illustrations of Elementary Forms of Disease. Fasc. 1, and art. Tubercle. (Cyclopædia of Practical Medicine.)

which it is to protect; nor is it to be changed without necessity, but must rather remain till it comes off spontaneously. It is not the medicinal substance of which the plaster is composed, but the equable temperature in which the morbid part is kept, the animal vapour which collects under the impenetrable covering, continually secreted and again absorbed, and the permanent stimulus to the skin, exciting not merely the diseased, but also the neighbouring healthy vessels, into constant action, which produce those beneficial consequences, and particularly those resolvent and dissolvent powers whose effects we so frequently have the opportunity of observing after the application of plasters. Hence it appears why it is exactly those pharmaceutical combinations, (particularly the herb-plasters,) to which, according to the laws of the Materia Medica, the greatest discutient virtue is ascribed, that have this virtue the least, and therefore the physician who, in pursuance of his theories, mixes conium, melilotum, &c. with the ordinary plaster mass, is disappointed in his expectations; for these remedies, when externally applied, have nothing medicinal but their bad smell, and destroy the adhesiveness of the plaster, on which its other qualities depend. And hence, too, it appears why any domestic plaster, made of resin and other adhesive substances, will often remove a swelling in a short time, on which ointments, and liniments, and plasters enriched with vegetable and mineral substances, have been exhausted in vain.

"In obedience to this conviction, the fruit of experience, I have for more than twenty-five years used only the following plasters: the gummy diachylon, the common mercurial plaster, or the one compounded with camphor and opium, and the ammoniac plaster prepared with vinegar; and I can state, that, with nothing but these applied as directed above, I have resolved and healed indurations in membranous, glandular, and bony structures, which had obstinately resisted all other remedies." (P. 28-31.)

The number of ulcers treated during these five years was considerable, namely 688, including 65 chancres; of the remainder, 562 were in the feet, 61 in other parts. The rules laid down for the treatment of different ulcers show the practised surgeon, and from a good compendium of "Helcology," as Dr. Rust calls it. They are as follows:

IRRITABLE ULCERS.

1. If the ulcer was painful, its bottom brown, rather dry than moist, the secretion scanty, and the edges raised and painful, and even the neighbouring parts red and inflamed, the continued application of plain luke-warm water, or Goulard water and emollient bran poultices, were the most serviceable remedies. But there are ulcers of so irritable a character, that, to touch them, excites convulsions; and leeches applied in the vicinity of the diseased part, increase instead of lessening this sensibility. The surface of the ulcer has nothing peculiarly striking about it, not even an appearance of irritation or inflammation, and is commonly far from large; it is sometimes smooth, shining, and devoid of all granulation, and at others covered with pale loose cellular substance. This rare species of ulcer has several times been observed by Dr. Rust, who affirms that there is only a single remedy of efficacy in these cases, but that is a sure one, namely, the red precipitate.

FÆTID ULCERS.

2. In unclean sores, with very fetid secretion, and putrid surface, which was even in part sphacelous, the application of charcoal, of camomile flowers, of myrrh and of camphor, (sometimes in powder, and sometimes made into an ointment with oil of turpentine,) pyroligneous acid, camphor wine, and solution of chlorine, were the most efficacious means of removing the fetor, and of chemically altering and improving the secretion; at the same time that they strengthened the relaxed fibres, and by increasing the activity of the vessels, they cleaned the sore, and threw off the slough.

LUXURIANT GRANULATION.

3. When the surface of the ulcer was luxuriant, but not otherwise unhealthy, the best effects were produced by the continued application of cold water, and Goulard's solution, with low diet, frequent aperients, and an elevated position, of the suffering part. When the granulation was luxuriant, and at the same time spongy, the application of the solution of nitrate of silver with opium, of a solution of corrosive sublimate (from two to three grains to the ounce), of the expressed juice of the small-leaved plantain of camphor wine, or sometimes merely a dry and rather tight bandage, were the most efficacious remedies.

4. In the case of *sluggish ulcers* warmth and moisture were applied in the shape of fomentations and bran poultices, and they were dressed with stimulating ointments, such as the Ung. Basilicum cum. Tr. Myrrhæ, or the Ung. Hydr. rubr. and with distinguished success.

VARICOSE ULCERS.

5. In old ulcers of the foot, when the surrounding parts were varicose and callous, the edges indurated and prominent, and the bottom smooth and cup-shaped, the whole of the affected parts were wrapped up in strips of plaster, with evidently favourable results. A simple un-irritating plaster, such as the Empl. Plumbi or Empl. Saponis, was always selected for this purpose. The pressure soon improved the condition of the parts, the relaxed surface of the sore was stimulated, and the indurated edges became soft. The remedies having produced their effect, their continuance would have been injurious, and other expedients were adopted for the cicatrization of the ulcer. A solution of nitrate of silver with Tr. Opii was generally used, or else Goulard's water, according as stimulants or sedatives seemed to be indicated.

GOUTY ULCERS

6. Were also treated with the greatest advantage by the application of a simple plaster, such as those just mentioned, though the form and condition of the sore did not always allow of its being put on circularly.

Other remedies could rarely be borne, especially if they were applied in a moist or fluid form.

SCROFULOUS ULCERS.

7. Were injured by all emollient or relaxing remedies; but, on the other hand, the most efficacious were the sprinkling the secretory surface with red precipitate, camomile flowers, bark, &c.; the application of the phagedenic water, the solution of nitrate of silver, the expressed juice of the small-leaved plantain, and the following dressings:

R. Ung. saturnini 3j.; Hydr. præcip, rubri 3ij.. M. R. Extr. Anthem., conii. Calendulæ, *aa* 3ij.; Aquæ Laurocerasi 3ij.; Tr. Opii 3iss. M.

In cases which had been very much neglected, the entire removal of the edges of the sore by the scissors, or knife, considerably hastened the cure of the sore itself.

SCORBUTIC ULCERS

8. Were most effectually treated by dressing them with Theden's arquebusade, camphor wine, pyroligneous acid, and powdered charcoal.

IMPETIGINOUS ULCERS.

9. Whether they took their rise from a pscoric, herpetic, or any other eruption, got well under the use of mercury (in the shape of the red or white precipitate, or the sublimate,) acetate of lead, sulphate of zinc, and charcoal. In addition to the combination of lead ointment with the red precipitate given above, phagedenic water, and fomenting the part with infusion of camomile, combined with acetate of lead and tincture of opium, Dr. Rust says that he can recommend the following dressing:

R. Ung. Saturnini ℥ j.: Ung. Rosat. ℥ ss. Hydr. præcip. albi, Zinci oxydi, *aa* 3ij.; Pulv. carbon. lign. tiliæ 3iij M.

Suitable general remedies were of course administered at the same time; among the best sulphur, sulphur of antimony, the Æthiops antimonialis, and Zuttmann's Decoction.

The local application of fresh cabbage-leaves and a poultice of raw potatoes were frequently of great efficacy in cleansing the sore, particularly in herpetic ulcers.

PRIMARY SYPHILITIC, ULCERS OR CHANCRES—

10. were treated on the principle that, in the majority of cases, a general mercurial course is not requisite for the radical cure; and that the chief thing necessary is locally to change the nature of the sore, and to decompose and destroy the virus which is present. For this purpose the vesicle which forms after infection or the small excoriated spot which may already be present, should immediately be touched with the nitrate of silver, to prevent the spreading of the sore, and the absorption of the virus. This is to be done only during the first three or four days, a period when patients seldom seek advice: it is not to be recommended afterwards, when the sore has spread, and is copiously suppurating; for then the suppression of suppuration, by the forming of a crust, might give rise to vicarious disorders, especially buboes. In such cases, the application of a solution of caustic potash (a grain to an ounce of water,) was of more benefit than other and similar remedies; this is the less surprising, as caustic potash confessedly possesses the power, in so remarkable a degree, of decomposing animal poisons, that ablution with this wash after connection has proved the most decided preventive of syphilitic infection.

Dr. Rust also recommends the black wash with the addition of opium, in the proportion of a scruple to an ounce. The solution of corrosive sublimate, the red precipitate ointment, &c., were less frequently employed, and were obviously inferior in efficacy.

To this it may be answered, of course, that syphilitic sores will heal easily with any or no treatment, and the important point to be settled is, what treatment of the chancre will most diminish the chance of secondary symptoms without injuring the constitution of the patient, or adding fresh malignity to the secondary symptoms, should they arise in spite of the remedies.

Our author has some interesting observations on these and other topics relating to syphilis in the volume before us, (p. 163-180.) He begins by repeating, in an abridged form, an instructive set of experiments which he formerly published in the fifth volume of his Journal. Thirty patients, suffering under syphilitic ulcers of the genitals, of apparently the same kind, were divided into three classes. Ten were subjected to a purely local treatment; ten others took, in addition, mercury internally, until the local disease had disappeared; and the other ten, (following Hufeland's precept,) continued the internal use of mercury, when the local disease was cured; and if salivation appeared, they then continue the remedy after its disappearance, in diminished doses, for the same length of time that it had required to cure the sore. Those recovered the soonest, in the majority of cases, who had used mercury internally also. Within a twelvemonth, only one of those who had been treated without mercury came under treatment again for secondary symptoms, without having again exposed himself to syphilitic infection. Under similar conditions, three of those who had taken mercury internally until the disappearance of the local disease were affected with secondary syphilis; and also one of the ten patients who had continued the use of mercury after the cure of the sore, and who, for the most part, had been salivated. Dr. Rust never perceived either in these or in many other cases which have since occurred to him, that the secondary symptoms are more obstinate or more severe in those who have used mercury, than in others; but he confesses that cases of organic destruction, especially of the bones, are much rarer now that the fashion of treating syphilis without mercury has become pretty generally diffused, than formerly, when people fancied that they could not cure any syphilitic affection whatever without mercury; which, moreover, was two often administered in the most absurd manner. It is not mercury in itself, however, which seems to have so pernicious an influence on the frame, but its irrational administration, and particularly its use when the diet and regimen are ill regulated.

Nor is Dr. Rust inclined to think less highly of the internal administration of mercury from the unfavourable results attending it in the experiments detailed above. He is convinced that they are to be attributed to a bad diagnosis of the cases, or to other accidental causes: but concedes, at the same time, not only that in many cases we can radically cure local syphilis, without mercury; but that mercury, though it may accelerate the cure, is by no means able to prevent the transition of the disease into general syphilis, even when used in the most orthodox manner.

Dr. Rust has recorded his opinions on the nature and treatment of constitutional syphilis. One hundred and ninety-five cases of this disease occurred; of which, 170 were perfectly cured, six were discharged uncured, seven were transferred to a different division of the hospital, three were sent to asylums, (*Siechem-Versorgungshauser,*) on account of important mutilations, six died, and three remained under treatment.

Our author says, that of all the remedies which have been substituted for mercury in the treatment of syphilis, no one has been so much used as muriatic acid, which was recommended by Zeller, in a treatise printed in 1797; and he tells us, that this writer supposed calomel corrosive sublimate to owe their efficacy to the muriatic acid which enters into their composition. Dr. Rust took the trouble to go through the journals of the syphilitic wards in the Vienna hospital; and he found that many hundred patients, labouring under syphilis in all its forms, had been cured without taking a grain of mercury: in fact, for many years it played quite a subordinate part in these wards, and the quantity of mercury annually prescribed was a mere nothing, when compared with the number of patients, and the quantity of muriatic acid which was used. Dr. Rust accordingly resolved to use muriatic acid in the same manner; that is to say, giving a drachm daily in two pounds of barley water, but did not succeed in curing a single patient. At first he was unable to explain so singular a discrepancy in the results; but he soon discovered that it depended on a difference in the diet. Von Zellenberg, who had had the syphilitic wards under his care, gave his patients as little as possible to eat, and Dr. Rust determined to copy him. He did so, and was successful. He then diminished the doses of muriatic acid, and ultimately omitted it altogether; and the results were equally favourable.

But, although our author fully satisfied himself that the disease might be extirpated either by simple abstinence, or by the use of sarsaparilla, (which he considers a debilitating medicine,) or by saline purgatives, with occasional blood-letting, still he thinks it unjust to found upon these experiments a condemnation of mercury, and to contest its antisyphilitic powers, which have been confirmed by the experience of centuries. Putting aside the debilitating effects of the antiphlogistic method of curing syphilis, when long continued, it is far from being true that every case of the disease can be radically cured without mercury. This is shown, not only by cases of general syphilis, which, after having been fruitlessly treated for months and years with low diet, cleansing ptisans, aperients, nitric and muriatic acids, muriate of gold and soda, &c. were at last cured by mercury; but, in addition, by the relapses of cases apparently cured by the antiphlogistic method, which were never so frequent as since this way of treating method has become the order of the day in Germany also. Hence we ought to be content with having demonstrated that low diet and the antiphlogistic treatment are not only able of themselves to subdue syphilis in its milder forms, but are extremely valuable adjuncts to mercury.

Dr. Rust discusses, not as an advocate, but as a judge, the advantages to be respectively derived from attending hospital practice, visiting the poor at their own houses, or attending the instructions of a teacher who superintends a *Klinik*, i. e., a ward containing fifteen or twenty picked cases. To see the effects of treatment *en masse*,—to observe the powers of medicine, when it has to contend against penury as well as disease,—and to learn the practice of physic and surgery, as it were, chapter by chapter, are among the more obvious privileges of the three methods of learning.

Thrice happy is the student who combines them all! He will learn at one time what can be done with a few cheap and simple drugs, and at another he will find new tools in the most exquisite refinements of modern pharmacy; sometimes relying on his own diagnosis, he will at others have his errors (those parents of truth,) corrected by the most eminent practitioners. Such a man, neither despising the lessons to be derived from books, nor neglecting those to be gained at the bedside of the patient, will not split upon the rock of empiricism, nor be swallowed up in the vortex of book-learning. It is by the collected wisdom of the past, elaborated and improved in a congenial mind, that the great practitioner is formed; for we may almost apply to the physician what the most elegant of critics has said of the poet:

———ego nec studium sine devite venâ
Nec rude quid prosit video ingenium, alterius sic
Altera poscit opem, res, et conjurat, amicâ.

THE PHILOSOPHY OF HEALTH.

"The change that has taken place in the condition of lying-in women during the last century in all the nations of Europe, cannot be contemplated without astonishment. The mortality of lying-in women in France, at the Hôtel Dieu of Paris, in 1780, is stated to have been one in 15. In 1817, for the whole kingdom of Prussia, including all ranks, it was one in 112. In England, in the year 1750, at the British Lying-in Hospital of London, it was one in 42; in 1780, it diminished to one in 60; in the year between 1789 and 1798, it further decreased to one in 288; in 1822, at the Lying-in Hospital of Dublin, it was no more than one in 223; while during the last fifteen years at Lewes, a healthy provincial town, out of 2410 cases there have been only two deaths, that is, one in 1205. There is no reason to suppose that the mortality in the state

of parturition is less at Lewes than in any other equally healthy country-town in England.

"Equally striking is the proof of the diminished violence of the prevalent causes of diseases and death derived from the diminished mortality of children, the vital power of resistance being always comparatively weak in the human infant, and consequently the agents that prove destructive to life exerting their main force on the new-born, and on those of tender age. From mortuary tables, preserved with considerable accuracy at Geneva since the year 1566, it appears that, at the time of the Reformation, one half of the children born died within the sixth year; in the seventeenth century, not till within the twelfth year: in the eighteenth century, not until the twenty-seventh year: consequently, in the space of about three centuries, the probability that a child born in Geneva would arrive at maturity has increased five fold. In the present day, at Ostend, only half of the newborn children attain the age of thirty: whereas, in England, they attain the age of forty-five.

"No less remarkable is the progressive diminution of mortality among the sick of all ages. Hippocrates has left a statement, which has come down to our times, of the history and fate of forty-two causes of acute disease. Out of this number, thirty-seven were cases of continued fever; of these thirty-seven febrile cases, twenty one died, above half of the whole. The remaining five were cases of local inflammation, and of these four were fatal: thus, of the whole number of the sick (forty-two), twenty-five were lost. Now, even in the Fever Hospital of London, to which, for the most part, only the worst cases that occur in the metropolis are sent,—and even of these many not until so late a period of the disease, that all hope of recovery is extinct,—the mortality rages in different years from one in six to one in twelve; and, for a period often consecutive years, it is no more than one in seven; while, in the Dublin Fever Hospital, where most of the cases are sent very early, the average mortality, from 1804 to 1812, was one in twelve." (P. 138.)

ANATOMICAL DESCRIPTION
OF THE
PARTS CONCERNED IN INGUINAL
AND
FEMORAL HERNIA.

Translated from the French of M. Jules Cloquet.

"The fascia transversalis, then, is an aponeurosis, which, varying* in thickness, arises from the posterior edge of Poupart's ligament, from the fascia iliaca, from the external edge of the tendon of the rectus muscle, and is continuous above with the cellular tissue situated upon the internal surface of the abdominal muscles; inferiorly, and towards the middle of the crural arch, it forms a membranous canal, which commences by a wide opening, directed posteriorly and externally, and of which the internal edge is much the stronger: this canal descends around the spermatic vessels, to compose their proper sheath. The fascia transversalis supports the peritoneum behind, and is separated from it by the epigastric artery;† in front it corresponds with the transversalis muscle, and with the aponeurosis, of which it is often so intimately connected, that it can only be distinguished from it by the different direction of its fibres." (P. 16).

"The inguinal is wider, and its apertures are much more distinct in the male than in the female. Its direction, which usually corresponds with that of the crural arch, is also a little more oblique in the former than in the latter.‡ The occurrence of inguinal hernia is influenced by the differences in the dimensions of the inguinal canal, and which depend on the age and sex. In the numerous measurements which I have made of the parts which relate to this subject, I have obtained very nearly the same results as those published by Astley Cooper, in the second part of his Treatise on Hernia.

	MALE. Inchs.	FEMALE. Inchs.
"From the symphisis pubis to the anterior superior spine of the ilium	$5\frac{3}{4}$	6
to the tuberosity of the pubes.	$1\frac{1}{8}$	$1\frac{3}{8}$
to the inner margin of the external abdominal ring.. ...	$0\frac{7}{8}$	1
to the inner margin of the superior apertnre of the inguinal canal	3	$3\frac{1}{4}$
to the middle of the iliac artery	$3\frac{1}{8}$	$3\frac{3}{8}$
to the midole of the iliac vein	$2\frac{3}{8}$	$2\frac{3}{4}$
to the origin of the epigastric artery.....	3	$3\frac{1}{4}$
to the point where the epigastric artery passes on the inner side of the superior opening of the inguinal canal	$2\frac{3}{4}$	$2\frac{7}{8}$" (P. 22.)

Cloquet says,—

"The crural canal presents three walls: the anterior extends from the crural arch to the upper part of the opening for the vena

* "The fascia transversalis is in some individuals extremely thin; in others, towards the rectus muscle, it is composed of very strong bundles of fibres, so disposed, that open spaces, varying in form and number, are left between them.

† "The fascia transversalis possesses the greatest strength between the superior opening of the inguinal canal and the rectus muscle. In this situation it is opposite to the posterior part of the inguinal ring, from which it is separated merely by the thin fibres of the internal oblique and transversalis, which are attached to the pubes.

‡ "If a horizontal line be drawn on a level with the pubes, and an oblique one from the symphysis pubis to the anterior superior spine of the ilium, it will be found that, in the female, these two lines will meet at a more acute angle than in the male, and which depends on the less degree of elevation and the greater breadth of the pelvis in the former: in the female, also, the crural arch is more horizontal. This difference, however, is not striking in many individuals."

saphena, and is formed by the superficial layer of the fascia lata, which ascends in front of the femoral vessels; it is much stronger externally than on the inner side, where it is continuous with the deep layer of the same fascia, and with Gimbernat's ligament."

His translator adds,

"The anterior boundary or wall of the the crural canal is described by Sir Astley Cooper as being derived from the fascia transversalis, which is continued, he says, downwards beneath Panpart's ligament. It has been named Fascia Cribrosa, in consequence of its being perforated by small holes for the passage of blood-vessels and lymphatics.

On this point we rather agree with Sir Astley than with the French anatomist, and are consequently of opinion that the plate in which the latter has embodied his description is not conformable to nature.

MR. KEY'S CASES OF FEMORAL HERNIA.

Operation for Femoral Hernia, without opening the Sac

Ann Hunt, æt. forty-two, was admitted at Guy's Hospital, on the 4th of January last suffering under strangulated hernia. Her complexion was florid, and she stated her general health to be very good; she said that she was married, and the mother of six children, the last of which was born several years ago. The hernia, which was femoral, was of sixteen months standing; during which time it had always been returned with facility, and retained by a truss. About forty eight hours before her admission, having removed her truss, the hernia protruded, and very soon she became affected with pain in the part and sickness. A medical man was called in, who merely sent her medicine for the alleviation of the sickness, as she had concealed from him at first the fact of her being ruptured. When he became acquainted with it, he endeavoured to reduce the hernia; but, failing to do so, he sent her to the hospital. The hernia was then extremely hard and painful to the touch; her abdomen was tumid and tender, and her bowels had not been relieved for fifty hours; the sickness constant during the same period. Pulse 120, small; tongue brown and furred. She was put into the warm bath, and the taxis employed for about fifteen minutes, and again for a short time, when the bath had produced syncope, but without success.

Mr. Key now saw her, and finding the tumour still unyielding, she was removed to her bed, and the operation commenced in the usual manner. After dividing a portion of the fascia propria, a lobulated mass presented itself, very much like omentum, but consisting of fat brought down by the hernia from the crural opening. Through this Mr. Key introduced the flat director he employs in this operation, and having divided the stricture external to the sac, the slightest pressure on the part sufficed to return the bowel to the abdomen. Her symptoms were immediately relieved, and two hours after the operation she complained of nothing but slight smarting in the wound. She was ordered.—R. Magnes. Calc. ℈i.; Magnes. Sulph. ℥ij. statim sum. Injiciatur Enemac. Ol. Ricini ℥ss. post horam. This acted twice on her bowels in about four hours. Pulse ninety-six.

On the following day, January 5th; her countenance was exceedingly good, tongue clean, skin moist, pulse eighty-eight. She had but little sleep. Bowels not opened.—Rep. Mist. 3tia quaque hora. si op. fuerit.

6th. Bowels opened twice in the night. She slept well; tongue clean; pulse seventy-six.

7th. The same.

8th. The medicine occasioned flatulence, and was suspended.

9th. She complained of much pain in the lower part of the abdomen; skin hot; tongue white: pulse 108. She had pain on inspiration.—Hirudines XL. abdomini. Calom. gr. ij.: Opii. gr. j.

10th. Pain much relieved; passed a tolerably good night; tongue less furred; pulse eighty: bowels not opened.—Enema. c. Ol. Ricini ℥ss.

12th. Towards evening she had a return of the pain in the abdomen; tongue furred; pulse ninety-six.—Hirudines XL. Rep. Pil.

13th. Better: much relieved by the leeches; skin moist.—Cont. Pil.

14th. Much better. She has had a swelling in the right iliac fossa, but which is now much smaller.

16th. Going on well. The swelling in the side scarcely perceptible.

18th. She complained of acid eructations; for which, a few small doses of Potassæ Carb were administe ed. After this she had not a bad symptom. The wound healed on the 30th, and she was discharged.

IMPENETRABLE STRICTURE, WITH URINARY FISTULA—OPERATION.

Samuel Huie, æt. thirty. Eight years ago, while engaged as a planter in Jamaica, he fell across a beam, and injured his perineum: the accident was followed by retention of urine and extravasation. A small catheter was introduced thirty-six hours after the fall, and was kept in the bladder two days; the integuments and urethra had then sloughed, and laid open the passage several inches. It remained so twelve months, when the edges of the wound were pared, and ligatures applied. He wore a catheter till this had healed, which was in about two months. When it was withdrawn, the urethra became strictured at the same point, and at length almost impervious; only admitting the stilette of an elastic catheter. From this time he frequently suffered from retention of urine, and relieved himself by the introduction of the wire. About twelve months since, a small abscess formed in the perineum, behind the stricture, which burst, and the urine has been passed in part by the opening up to the present time. He was taken into the hospital, October 8th. No instrument could be passed through the stric-

ture, except the small stilette, which he introduced with considerable dexterity. The urethra, at the termination of the bulb, was very hard and irregular, and behind it was a small opening in the perinæum, which would scarcely admit the smallest probe. Micturition was attended with great pain; the urine passing guttatim from the fistulous opening, and in a minute stream, about the size of a horse-hair, from the penis.

After he had been in the house some weeks, Mr. Key, finding it impossible to cure the stricture by dilatation, proposed an operation, similar to the one which had before been performed, viz. that of opening the urethra with a knife, and allowing it to heal over a catheter. This was done on the 10th of November. The quilled suture was used, but removed three days afterwards, in consequence of a small slough appearing between the edges of the wound. A week after the operation the catheter was withdrawn, cleaned, and returned without difficulty. On the 10th of December, the opening was very small: Mr. Key introduced a smaller catheter, and ordered the Ung. Hid. Nit. Ox. to be introduced on lint, with a probe.

On January 1st, the wound in the perinæum was closed, except a very minute opening. The catheter was withdrawn, and ordered to be introduced, when the patient wished to pass urine. The wound healed on the 12th; he introduced the catheter himself with facility, and was recommended to do so for some time, when he found it requisite. He left the hospital on the 17th.

TWO CASES OF BRONCHOCELE,

BY

JAMES DAMERAM, ESQ.

We have been favoured, by Dr. Henry Davies, with the papers of a deceased medical officer, Staff assistant-Surgeon Dameram, together with permission to extract what we pleased. We shall avail ourselves of our privilege, by selecting, from the records of this diligent and meritorious officer, two cases of bronchocele, the interest of which depends on the success of a very bold method of treatment. They are to be found in the author's report of cases occurring in the detachment hospital at Penetanguishene, Upper Canada, in the quarter ending 31st March, 1833. Mr. Dameram observes, that eighteen cases of bronchocele had occurred since the first of January; a number so great as to make the disease appear epidemic, for it was in the proportion of two cases in five men. The disease was not endemic, and the detachment had been at this post eighteen months, without being attacked by it.

The following are the cases just referred to: for the method of treating them. Our author confesses himself indebted to Dr. Shortt, of the 79th Regiment. [EDIT. *Med. Q. R.*]

Robert Morton, admitted 8th February.—R. Iodin. ℥ss.; Conf. Rosæ, q. s. ut fiant pil. lx. quarum capiat j. nocte maneque, ante jentaculum, et post cænam, unâ horâ interpositâ. —R. Iodin. ℥j.; Adipis suillæ, ʒ j. M. fiat unguent. nocte maneque applicandum.

12th. A good deal of redness and irritation is produced by the ointment.—Pt. in usu unguenti.

13th, vespere. Empl. Lyttæ tumori.

14th. The blistered part has risen well, and the discharge of serum is copious.—Ung. Antim. Tart. applicetur parti vesicatæ.

15th. The application of the tartar-emetic ointment was attended with considerable pain and irritation. The cutis has partially sloughed, the remaining part being covered with pustules.—Applicetur Ung. Cetacei parti ulceratæ. Pt. in usu pilularum.

17th to 21st. The sloughed parts are healing kindly, and there is certainly a diminution in the size of the tumour.

From this time to the middle of the next month, the man took 1½ grains of iodine a day, with occasionally a purge, without the slightest change in the appearance of the neck. I then determined on a second trial of the counter-irritation, which was performed on the 19th of March, in the same way as before, having previously, for four days, rubbed in a scruple of the iodine ointment night and morning. Precisely the same results followed; the same irritation, same sloughing. He still continued his pills.

24th. The healing of the parts now allows me to see that again a very sensible diminution of the tumour has taken place.

27th. The tumour is still decreasing; and so it went on, till there appeared to be nothing left but a little fullness in the parts. The steerno-cleido-mastoidei are fully developed, as are also the rings of the trachea and thyroid cartilage.

On the 6th of April, I discharged this man.

Rod. M'Leod, the other man, was admitted at the same time with Morton, and treated like him in every respect, and on the same days; with this exception, that for three weeks and a half he took but one grain of iodine a day, because I suspected an organic disease of the heart, or commencement of the aorta: and I feared the iodine at first, especially as he has had, since I have been here, during a warm day, a momentary attack of angina pectoris and syncope: however, the iodine, guarded by purgatives occasionally, afterwards agreed very well with him. The results with him were precisely the same as in Morton's case, during treatment; and now his tumour is, I think, even more completely gone, in the middle and left side of the throat; but, on the right side, there is rather more fullness than in the other case. He was discharged on the same day with Morton, and I shall carefully watch them.

USE OF PURGATIVES.

There is a curious paper on this subject in the *Archives Générales* for September. The author, Dr. Simon, after having theoretically considered the effect of purgatives in a previous Number, gives in this one an account of

their therapeutic effects, where administered to a number of M. Andral's patients at the *Pitié*.

Case I. A carter, aged sixty-one, was suffering from bronchitis; his pulse was 116, and his respirations twenty-six in a minute. He was bled, took the gum-drink, with infusion of violets, and was put on low diet. These remedies produced no effect, and the patient remained in the same state for five or six days, when a violent fit of dyspnœa supervened. The day after this attack, the pulse was 108, the respirations twenty-four, and there was a decided mucous *râle*, both anteriorly and posteriorly. A jug of barley-water was now prescribed, with an ounce of sulphate of soda, and half a grain of tartar emetic. He was also allowed soup and broth. The aperient produced ten stools, and the pulse immediately fell to eighty-four, and the respirations to sixteen; the *râles* too were confined to the posterior part of the chest. The patient now quitted the hospital.

Case II. A turner, aged fifty-three, was admitted, suffering from hypertrophy and dilatation of the heart, with chronic bronchitis, slight ascites, considerable anasarca of the legs, and slight œdema of the arms. The pulse was very rapid, and so irregular as scarcely to admit of being counted. Respirations, twenty-eight. The treatment began by bleeding; there was no buff on the blood. The pulse remained as before, and so did the œdema. Twelve grains of calomel were now prescribed, which produced four very liquid stools; the pulse, which could now be counted, fell to eighty-four, and the respirations to twenty-two. After the interval of a day, a jug of barley-water was prescribed, with an ounce of sulphate of soda, and half a grain of tartar emetic; this produced seven copious evacuations. The pulse remained at eighty-four, the respiration fell to twenty, and the ansarca was much diminished. On the following day, the pulse was seventy six, the breathing much easier, and the cough much less.

The third case was one of pulmonary emphysema and chronic bronchitis, and the purgative consisted of two drops of croton oil which produced great relief.

The fourth case was one of chronic bronchitis with pulmonary emphysema, and slight hypertrophy of the heart. Two drops of croton oil were administered, which produced eighteen stools. The relief was great and immediate; the pulse falling from one hundred to sixty-eight, and the respirations from thirty-six to twenty.

The fifth and sixth were cases of pleurodyne, treated with leeches and purgatives: in the first of the two, the purgative was of no benefit; but the plain fact is, that the pulse was only sixty-eight, and a blister was obviously indicated from the commencement.

The seventh case is termed by our author chronic laryngitis. The pulse was eighty, and the respirations twenty. Bleeding and leeches were tried in vain, and friction with croton oil was of temporary advantage only. The patient was cured partly by a spontaneous diarrhœa, and partly by two doses of croton oil.

This paper is interesting, both as showing how necessary a French physician thinks it to apologise for a method of treatment familiar to every British practitioner; and also as demonstrating the utility of that method in the clearest manner; for the purgatives and the venesection being used on separate days, their respective merits cannot be confounded.

EFFECTS OF INDIGO IN SPASMODIC DISEASES.

Dr. Moritz Strahl gives the result of some experiments on this subject, in Gräfe and Walther's Journal, (Vol. xxi. Part I.) He first employed indigo in cases of confirmed epilepsy, beginning with a scruple three times a-day, and increasing the dose until half an ounce was taken daily. During the use of the remedy, the stools became blue, and the urine dark green. Ten epileptic patients, of whom four were under 15 years of age, and the rest from 20 to 30, took the indigo without intermission for eight weeks. In two cases only there was a temporary absence of the disease, but even in these it returned with as much violence as ever. The indigo seemed to have no effect on the system, with the exception of its dyeing the stools and urine, and causing a slight uneasiness of the stomach, which was probably merely a mechanical effect, depending on its bulk, as it occurred only from the largest doses, and generally disappeared in a few hours. These patients were all males. The author likewise administered indigo to four hysterical patients, one of whom was in extreme old age, and the others were girls aged 17, 21, and 24. The effects were singular enough. When the dose had been raised to two drachms a-day, all four were seized with violent nephritic pains, the urine was more intensely coloured than in men, and a tolerable quantity of fine indigo dust was to be seen at the bottom of the vessel. These violent renal symptoms lasted four days; and yielded at last to the continued use of an oily emulsion. In one case only was there a remission of the spasmodic symptoms after the disappearance of the nephritic attack, and that patient is now quite well, three months after the discontinuance of medicine. The power of the indigo over the uterus was sufficiently striking; for in two cases an amenorrhœa, with which the spasmodic symptoms were complicated, was entirely cured, though the spasms themselves did not cease when menstruation had returned. In two cases of St. Vitus's Dance, one in a boy of 12, and the other in a girl of 9, the indigo was administered for six weeks, but without benefit. Dr. Moritz Strahl concludes that indigo is inefficacious in spasmodic diseases, but possesses considerable power over the genital and uropoetic system.

BELLADONNA IN HOOPING COUGH

This remedy has been used with success by M. Guersent in two cases. The first patient was a girl aged five and a half, who had been labouring under hooping-cough for a fortnight. The dose was a grain of the

alcoholic extract of belladonna daily, to begin with, and was gradually augmented to three grains. It did not produce any unpleasant symptom except dilatation of the pupils. Amendment rapidly took place, and in six days the cough became purely catarrhal, but the remedy was continued three days longer, to prevent all danger of a relapse.

The second patient was a girl aged seven. She had had a cough three months, and had hooped three weeks. In this case the belladonna cured the hooping in a few days; but being now omitted the hooping returned. The belladonna was resumed, and again cured the hooping, but caused enormous dilatation of the pupils, confused vision, and head-ache. The dose was diminished, and the disease did not return.—*Gazette des Hopitaux.*

ON THE USE OF CAMPHOR IN TYMPANITIS.

Dr. Tradini has narrated four cases of tympanitis in the Gazette Médicale. The first one, he says, he treated according to the doctrines of Sauvages. Morgagni, and Cullen. The patient was a woman about 60, of corpulent habit, who had always lived comfortably and enjoyed good health. The author applied a large blister to the abdomen, and ordered the following mixture.—R Aq. Menth. Pip.; Aq. Melissæ aa. ℥ ii.; Æther. Sulph. ℥i.; Syrupi ℥ i. M. sumat coch. ii. ampla ter in die. A temporary alleviation ensued, but nothing was of any permanent benefit, and the patient died in three months.

Case II.—The patient, a man, æt. 45, was first treated by the application of iced water and ice to the abdomen; but as this was of no benefit. Dr. Tradini prescribed the following remedies:—R. Camph. pulv. gr. vi.; Extr. Cinch. officin. gummosi, gr. viii. M. ft. pilula; dentur tales æquales nº. viginti, sumat unam quarta q. horâ.—Frictions with hot flannel, and the use of flannel drawers and waistcoats were likewise ordered. Eighteen of the boluses completed the cure.

Case III.—The patient was the famous improvisatore Philip Pistrucci, whom our author treated in London. He had previously been under the care of another physician, who had prescribed aperients, which had opened the bowels, but not relieved the abdominal distention. The same remedies were employed, except that each dose contained seven grains of camphor, and in a few days Pistrucci was cured.

Case IV.—The patient was a boy, æt. 9, who had been ill for a month, and kept his bed for a week. He was suffering from marasmus as well as tympanitis, and there was fluctuation in the abdomen. The prescriptions were—R. Camph. pulv. gr. ii.; Scillæ pulv. gr. ss.; Extr. Cinch. officin. gummosi, gr. ix. M fiat pilula; dentur tales no. 6, sumat i. omni tertiâ horâ ante nutrimentum.—R. Decocti graminis, ℥ x.; sit pro potu.—and his diet was to consist of broth and wine. The measures produced immediate relief, and in a month the child was quite well, with the exception of some glandular swellings in the neck.

ON STAMMERING AND ITS CURE.

There is a paper on this subject, by Dr. Moritz Strahl, in Gräfe and Walther's Journal. The method of which he gives an account was brought to Europe from America, by a Mrs. Leigh. She entered into partnership with Dr. Malbouche at Brussels, from whom the secret was bought by the Belgian government. The system has likewise met with great applause in Prussia, and was designated, by Dr. Zitterland, member of a commission appointed to inquire into its merits, one of the most important discoveries of our age. The Prussian medical board, too, sent persons acquainted with the method to the seminaries where schoolmasters are educated, in order to instruct these teachers how to cure any cases of stammering which might occur to them. Dr. Strahl learned the art from his sister, who had been under the care of a professed curer of stammering.

The whole art consists in the following rules: the stammerer is to press the tip of his tongue, as hard as he can, against the upper row of teeth, is to draw a deep breath every six minutes, and is to keep perfect silence for three days, during which, this pressing of the tongue and the deep inspirations are to be continued without intermission.

During the night small rolls of linen are placed under the tongue, in order to give it the required direction even during sleep. When the three days have expired, the patient is to read aloud slowly to his physician for an hour. During this exercise care is to be taken that the stammerer is never in want of breath, and he must therefore be made to stop frequently, and inspire deeply. The patient is to be admonished to keep the tip of the tongue floating when he speaks, and never to allow it to sink into the anterior cavity of the lower jaw.

It would hardly be believed that this most simple method of treatment could have such striking success as experience teaches us that it has, even in the worst cases. Whether it is that speech is made more easy by the mechanical direction of the tongue, which, after the three days of pressure, remains of itself in the floating direction; or whether it is from the moral influence exercised by the three days' silence and the mystery that hangs about the treatment; certain it is, that the result is immediate, and surprisingly favourable, but unfortunately it is not lasting.

SIR B. BRODIE'S LECTURES.

Comparison between the merits of Lithotrity and Lithotomy.

"It must be acknowledged that this operation possesses several advantages over lithotomy. It is less formidable to the patient,

it requires little or no confinement; and many individuals will be induced to submit to it at an early period, who would not have mustered courage to submit to lithotomy, until after a lapse of time, when their sufferings had become excessive, and when, probably, circumstances had arisen to render the operation dangerous. To this may be added, that there is no danger of hemorrhage, nor of those ill consequences which arise from an incision or laceration extending into the loose cellular structure which surrounds the neck of the bladder.

"But it is scarcely to be expected that any method can be devised of relieving human nature of so great a calamity as that of a stone in the bladder, which shall be altogether free from difficulty and danger; and it is no disparagement to so great a discovery, as that of the lithontriptic operation, to enumerate the following as the principal disadvantages belonging to it. The patient does not obtain a cure at once; and in many instances, the process, by which the stone is crushed, requires to be repeated several times. As the smallest fragment which remains behind will form the nucleus of a new stone, a recurrence of the disease is more likely to take place after the lithontriptic operation than after that of lithotomy, especially in those cases, in which, in consequence of an enlargement of the prostate gland, the patient is unable completely to empty his bladder. The operation is by no means well adapted, except to calculi of moderate size; and when applied to those of larger dimensions, it is either altogether impracticable, or difficult, tedious, and dangerous. When the stone is large, the sharp angular fragments lying in the bladder induce inflammation of its lining membrane, attended with severe local suffering, producing afterwards much disturbance of the general system, and either retarding the cure, or terminating in the patient's death. It is further to be observed, that those complications of disease in the kidneys, or bladder, or ulcerated prostate, which render the old operation hazardous, render the new operation hazardous also; so that the invention of the latter does not relieve us of those cases, in which experience has taught us to shrink from the performance of the former. As to the quantity of actual suffering which the patient has to undergo under one of these methods, as compared to that which belongs to the other, it is not possible to arrive at any satisfactory conclusion. The fact is, that the amount of pain is, for the most part, over-estimated; and that those who have gone through either of these operations, generally say afterwards, that the pain was less than they had expected. This observation, at least, applies to those cases, in which the bladder is healthy, and the operation proceeds favorably. If the bladder be inflamed, or any thing occurs to render the operation difficult and tedious, the patient undoubtedly suffers for the time severely, whether the stone be crushed, or extracted by incision."

Sir B. Brodie recommends the employment of Weiss's screw lithotrite, as preferable to the hammer apparatus of Heurteloup.

FROM DR. GREEN'S WORK ON DISEASES OF THE SKIN.

"Useful formulæ."

BATHS.

Shulphureous Water, or Artificial Barréges Bath.

R. Shulphuret. potassæ, lbi.
Aquæ, Cong. xxx. M.

Sulphureo-Gelatinous Bath.

R. Sulphuret. potaasæ, ℥ ij—℥ iv.
Aquæ, Cong. xxx.

Add to this solution,
Ichthyocollæ, lbi—lbij.
in aquæ bullientis soluta lbx. M.

"This bath is preferable to the artificial Barréges bath, as it is neither irritating, nor apt to occasion feverishness, which the common sulphureous water bath is.

"A cheaper and not less efficacious gelatine may be procured by dissolving from lbiss to lbii of parchment clippings in water, by long boiling, or by using a neat's or calf's feet for the purpose.

Emollient Bath.

"To an ordinary tepid water bath add a large basin-fully of thick gruel or paste, and mix it well with the water.

"One or other of these baths is often of great use in prurigo, eczema, lichen, and impetigo.

Nitro-Muriatic Acid Bath

R. Acid. nitrici, ℥iij.
Acid. muriatici, ℥i. M.

"To be added to the water of a tepid bath which should then be about as sour as distilled vinegar.

Sublimate Bath.

R. Hydrarg. chloruret (oxy-muriat.), ℥ii—℥i.
Aquæ tepid. Cong. xxx.

"Sometimes prescribed in syphilitic affections, when we would avoid the action of the medicine on the stomach. Thirty are said in general to be sufficient for the cure. Formulaire de l'Hôpital des Vénériens.

Alkaline Bath.

R. Potassæ sub-carbon. ℥ iv.— ℥ viii.
Aquæ tepid. Cong. xxx. M.

"Very useful in promoting desquamation from the skin, and in allaying pruritus in several forms of prurigo especially.

Artificial Harrowgate Bath.

R. Sodæ muriat. lbij.
Magnes sulph. ℥iij.
Potassæ sulphuret. lbi.
Aquæ. Cong. xxx.

FUME-BATHS OR FUMIGATIONS.

Sulphur.

Sulphur. sublimat. ℥ i.— ℥ ij—℥ iij.

Chlorine.

R. Oxid. nigr. manganes. ℥ ss.
Acid. muriat. ℥ i.

"It is sometimes advisable to substitute this bath occasionally for that of the sulpher fumes, when the disease of the skin, for which these are prescribed, proves very rebellious. It soon occasions the mouth to become sore, like the nitro-muriatic acid bath.

Mercurial.

Hydrarg. oxid. cinerei, ℥i—℥ij—℥iij.

"The grey oxide is preferable to the red sulphuret of mercury or cinnabar, as it does

not occasion coughing when inhaled, which cinnabar always does. It is, on the same account, greatly superior to cinnabar for fumigating ulcers in the throat.

Aromatic.

R. Gum. benzoin. ʒiv—ʒi.

"Aromatic effluvia may also be raised in the heated air bath for any other of the fragrant gum resin, essential oils, &c.

LINIMENTS AND LOTIONS.

R. Potassæ sulphuret. ʒiij.
Sapon. mollis, ℥ i.
Aq. calcis, ℥ viij.
Spirit. vin. rect. ʒij. M.

"This is a good wash in porrigo especially, but is also useful in many other species of cutaneous disease.

R. Liq. potassæ, ʒij.
Ol. oliv. ʒiij.
Aq. rosæ, ℥ i. M.

R. Liq. potossæ, ʒij—ʒiv.
Aq. rosæ, ℥ ii. M.

"These are both of great service in cases of obstinate lepra and psoriasis especially.

R. Acid. nitrici,
Acid. muriat. *aa* gtt. xx.
Aquæ rosæ, ℥ vi. M.

"This may sometimes be used with good effect in cases of ptyriasis and of chloasmas.

R. Hydriod, potassæ, ʒss.
Spirit. tenuior. ℥ i.— ℥ iv.
Aq. rosæ, lbss. M.

R. Hydrarg. chloruret. (corrosive sublimate,) gr. viii.
Aquæ rosæ, lbi.
Spirit. vini rectif. ℥ i— ℥ ii.

"These are both excellent lotions in cases of acne. They may be made with emuls. amygd. amar. instead of rose water.

Eczema of the fingers.

R. Hyd. oxy-muriat. gr. ij—vj.
Spirit. vin. rect. ℥ i. M.

Impetigo, Eczema, Lichen, &c.

R. Lip. plumb. sub-acet. ʒi.
Spirit. vin rect. ℥ i
Aq. distill. lbi. M.

R. Acid. hydrocyanici, ʒij.
Hyd. oxy-muriat. gr. iij.
Mist. Amygdalæ, ℥ vj.

A. T. THOMSON.

Impetigo, &c. &c.

R. Sulphat. alumen.
———zinci, *aa* ʒi.
Aq. ferventis, lbss. M.
Adde acid. sulphur. ʒss.

R. Acid. hydrocyanici, ʒij.
Plumb. acetatis, gr. xvj.
Aq. distill. ℥ viiss.
A. T. Spirit. vin. rect. ʒij. M.
THOMSON.

R. Hydrargyri, ʒi.
Acid. nitrici, ℥ ii.
Aq. distill. lbv.

"Treat the mercury with the nitric acid, and complete the solution by adding the distilled water; half an ounce is used morning and evening as a lotion in scabies, prurigo formicans, &c. It does not stain the linen. The solution of the mercury in an excess of nitric acid is one of the best caustics and escharotics we possess, in arousing indolent sores generally, and in arresting the morbid actions of phagedenic ulcers, as of lupus, &c.

"A solution of uniform strength for use as a caustic, may be prepared as follows:

R. Hydrarg proto-nitrat. sicc. ʒi.
Acidi nitrici, ℥ i. M."

THE SPHYGMOMETER, &c. BEING A MEMOIR PRESENTED TO THE INSTITUTE OF FRANCE, BY DR. JULIUS HERRISSON.

The Sphygmometer, or pulse-measurer, is an instrument intended to measure the force of the pulse; its construction and use are described by Dr. Herrison in the following passage.

"The instrument to which I have given the name of sphygmometer, consists of a glass tube, three inches and a quarter in length, and two twelfths of an inch in diameter, graduated in front, and having a slip of a coloured paper placed at the back with the graduated figures marked on it, the end of this glass tube is inserted into a steel stem, one inch and a quarter long, which is terminated at its base by a hemi-spheroidal steel cup, three quarters of an inch in diameter, and two inches and one eighth in circumference, similar in form to an inverted tea cup, which is closed with a piece of gold-beater's skin stretched over its mouth, and confined by a rim in the same manner as parchment is secured on the head of a drum. All communication between the hemi-spheroidal cup, and the capillary duct of the stem and glass tube, is intercepted at will by a small stop-cock.

"There is in this hemi-spheroidal reservoir a certain quantity of mercury, which, whenever the instrument is properly applied in the course of an artery, receives and represents its action in the transparent tube. The same instrument on a large scale serves to explore the heart. You will observe that the capillarry duct, the hemi-spheroidal cup, and the quantity of mercury being the same in all Sphygmometers, they all possess the same power, and afford an identical measure of the pulse.

"When the pulse of an individual is to be examined, he may be seated or reclining on a couch; if he be seated, the physician placed himself before the arm, the artery of which he is going to examine, and steadies this arm upon his left hand, or on his thigh, or on the arm of a chair; he holds the instrument by its base between the thumb and the index (fore) finger of his right hand, and applies it over the course of the radial artery in such a manner, that the artery shall correspond, as exactly as possible, to the centre of the reservoir. By pressing the artery, (in the way above alluded to) with the right hand, the physician endeavours to discover the maximum of its impulse; and having ascertained this, he presses with the end of his thumb and index finger, upon the lateral parts of the artery, whose action is then transmitted to the column of mercury, which thus appears a mere continuation of the artery." (P. 3.)

The following table will show the indications afforded by the sphygmometer, in a number of cases of diseased heart.

Dr. E. S. Blundell's *Sphygmometer.*

Organic Lesions.	*Character of the Pulse, and Sphygmometric Signs.*	*Necroscopic Examination.*	*Observations.*
"Auriculo-ventricular contractions at the right side of the heart, and auriculo-pulmonary contractions.—22 cases.	Small, irregular, unequal, intermittent, and at times imperceptible. The column of mercury does not descend to the point from whence it started, or descends to it only in two periods. Near the middle it is surprised by an incidental impulsion.	Contractions of various kinds, and dilatations of the auricle and ventricle in a more or less forward state. A little hypertrophy was observed in the right ventricle of four individuals.	In eight of these patients, auscultation furnished only a slight *bruisement*. In six, the *bruit cataire* was distinctly marked; in the other eight, there was no abnormal sound. Oppression, and a more or less decided alteration of the features and colour of the face, were the only symptoms which might have raised any suspicions of the disease. Four patients died of pulmonary apoplexy; the rest in a state of general infiltration.
Auriculo-ventricular contractions on the left side of the heart, and ventriculo-aortic contractions.--27 cases.	The pulse is feeble, irregular, intermittent, unequal, but much more so than in the contractions of the orifices on the right side. The column for mercury in the Sphygmometer descends below its level, one, two, and even three degrees, according to the importance of the obstacle.	In twelve cases the heart was not affected with hypertrophy, but merely dilated. In the other fifteen there was a beginning of hypertrophy of the left auricle and ventricle.	In the first twelve, the pulse was extremely feeble, the patients died of hydrothorax, in a state of general infiltration. Of the remaining fifteen, eight sunk under hæmoptysis, five died of various affections of the lungs, and two of cerebral hæmorrhage. The pulse of these fifteen patients was hard, frequent, and brusque, but offered only a very inconsiderable development.
Hypertrophy of the heart, without any contraction of the orifices.—18 cases.	Pulse regular, but unequal in its contractions. It presents this anomaly, that the column of mercury, after having ascended a certain number of degrees, (we will say three or four,) rises suddenly by intervals up to eight, ten, and even fifteen degrees.	The autopsy of eighteen individuals, in whom I had observed the stated Sphygmometric sign, showed a concentric or excentric hypertrophy of the left ventricle, without any contraction of the orifices.	In those patients who laboured under a concentric hypertrophy, the pulse had not the same development as in eccentric hypertrophy, but it presented the same character of inequality in its contractions. The signs derived from auscultation occurred in eight cases; in all the others they were so feebly marked, that it would have been impossible to recognize an advanced lesion of the heart by those signs."

PATHOLOGY AND PRACTICE.

REPORT OF THE SURGICAL AND OPHTHALMIC INSTITUTION OF THE UNIVERSITY OF BERLIN, FOR THE YEAR 1833.

This instructive account is contained in the first part of the 22d vol. of *Gräfe and Walther's Journal*. It is called merely an extract from the report; but, as it extends to seventy-five pages, we must still farther abridge it for the benefit of our readers.

Summary view. The number of patients treated in the year 1833, partly at their own houses, and partly in the hospital, was 1524; of whom, 1046 were surgical, and 478 ophthalmic. The total number of operations was 455; the surgical ones being 375, and the important ophthalmic ones 80.

Removal of the Margin of the Eyelids along the whole row of Eyelashes. This was performed on both eyes of a young man, on account of dystichiasis, causing inflammation of the eyes, with pannous cloudiness of the cornea. It was performed quickly, with comparatively little pain, without any injury to the shape of the eyelids, and with a perfect attainment of the object aimed at.

Formation of Artificial Pupil. The operation for this purpose was performed five times.

In two cases, the patients could not distinguish the light, and the operation was performed only at their earnest request. It was done because several cases have occurred, where, in spite of complete insensibility to light, vision has been restored. The two patients in question were not so fortunate, but the operation was completely successful in the other three. The instrument used was Gräfe's *Coreoncion*.

Extirpation of the Eyeball and both Eyelids. In this case a neglected trichiasis, of long standing, had caused a fungous degeneration of the eyeball and eyelids, as far as the edge of the orbit, to such a degree, that the approach of cancer was at hand. The cure was completed within a month. The remains of the eyelids gradually approached one another, almost covering the orbit; and, althongh the lachrymal gland was left behind, there was not the slightest trace of the secretion of tears.

Mr. Guthrie's Eye ointment. Von Gräfe speaks in the highest terms of this remedy. The original formula is R. Argenti nitr. gr. iv—x.; Ung. Cetacei, ʒi.; Liq. Plumbi Subacet. gtt. i—xv. M.

Our author uses it in a milder form, as follows: R. Argenti nitr. gr. iij.; Axungiæ, ʒij.; Liq. Plumbi Subacet. gtt. v. M.

He prefers it to a strong solution of lunar caustic in water, and not only employs it in diseases of the eye, but introduces it into the urethra in cases of torpid and obstinate gonorrhœa, in which it does not cause any great pain.

DEVIS'S [DAVIS'S] SOLUTION OF THE HYDRIODATE OF POTASH.

Gräfe has used this remedy with success in arthritic, scrofulous, and syphilitic diseases, and has found it of great service, when sarsaparilla and mercury had been employed in vain. It never caused any affection of the chest, or any important attenuation of the patient, or weakening of the digestive organs. The prescription is as follows: R. Potassæ Hydriod., ʒss.—ʒj.; Iodines, gr. ss.—j.; Aquæ destill. ʒ viij.; Syr. Papav. alb. ʒ ss. M. d. s. A table spoonful is to be taken three times a day, and the dose is s to be gradually increased.

THE ANATOMY AND PHYSIOLOGY OF THE LIVER.

By Francis Kiernan, Esq.

Member of the Royal College of Surgeons, late Teacher of Anatomy.

(Condensed from the Philosophical Transactions.)

(Continued from page 78.)

All the *vasa vasorum* of the liver are branches of the hepatic artery and portal vein. Branches of the artery ramify in the coats of the duct, artery, and portal vein; veins arise in the coats of all these vessels, and terminate in branches of the portal veins. In the hepatic-venous canals, and in the fissure of the inferior cava, small arteries issue from the interlobular fissures, and ramify in the coats of the hepatic veins and inferior cava: veins arise in the coats of these vessels, and entering the interlobular fissures, terminate in branches of the portal vein. All the veins arising in the coats of the vessels, and terminating in the portal vein, constitute the hepatic origin of this vein.

The trunks of the duct, vein, and artery, in each canal, terminate in interlobular branches. Vaginal vessels, giving off interlobular vessels, ramify in the transverse fissure, in the fissure of the gall-bladder, and in that containing the obliterated umbilical vein and ductus venosus; these fissures, therefore, must be considered as portions of portal canals.

Of the Hepatic Veins, and of the Hepatic-venous Canals.—The hepatic veins, are contained in canals, which may be called the hepatic-venous canals; they commence in the interior of the liver, and terminate at the fissure of the inferior cava. Those containing the hepatic trunks are formed by the capsular surface of a limited number of lobules; those containing the sublobular-hepatic veins, are formed by the basis of all the lobules.

As three vessels are contained in each portal canal, and as a branch of each vessel makes its exit from the canal at each interlobular space, each vessel necessarily forms a plexus, by which it is brought into apposition with all the spaces on the surface of the canal: but one vessel only, an hepatic vein, being contained in each hepatic-venous canal, the external surface of the vein is in contact with, and connected to, all the lobules forming the parietes of the canal, the intralobular veins, at their exit from the lobules, entering the sub-lobular-hepatic veins without

uniting in the canals to form branches similar to the vaginal branches of the portal vein, duct, and artery. The interlobular branches of the vein and artery conveying blood to the lobules, correspond to the intralobular branches of the hepatic veins, which convey the blood from the lobules; the former arise from the vaginal branches, the latter terminate in the sublobular-hepatic veins. Thus we find that the hepatic veins have no branches corresponding to the vaginal branches of the duct, portal vein, and artery; and as Glisson's capsule is composed of the vaginal vessels ramifying in cellular tissue, we consequently find nothing similar to this capsule around the hepatic veins, these veins having no vaginal branches. In the smaller portal canals, in which the spaces are less numerous and the plexus less complicated, one side of the portal vein is in contact with the parietes of the canal. On this side the interlobular branches arise immediately from the vein, and the cellular tissue is in small quantity, forming a delicate membrane on the walls of the canal; on the opposite side, which is separated from the walls by the duct and artery, vaginal branches arise from the vein, and the cellular tissue is abundant. These smaller portal veins resemble the hepatic veins on that side on which they are in contact with the walls of the canal, on which no vaginal branches are given off, on which the interlobular branches arise immediately from them, and on which there is no capsule; they resemble the larger portal veins on that side on which vaginal branches arise from them, and on which the capsule consequently exists. From the absence of vaginal branches on one side of these portal veins, it may be presumed, that should a portal vein be found entering the liver unaccompanied by a duct and artery, it would, like the hepatic veins, be connected to the parietes of its canal, and would, like these vessels, have no vaginal branches, and, consequently, no capsule. The structure and uses of Glisson's capsule are now fully explained, it being evident that the loose connexion of the ducts, portal veins, and hepatic arteries, to the substance of the liver, arises from the circumstance of the three vessels ramifying in the same canals; and that the adhesion of the hepatic veins to the substance depends on one vessel only being contained in each hepatic-venous canal.

Numerous minute orifices are seen on the internal surface of the sublobular-hepatic veins; these orifices are the mouths of the intralobular veins, all of which terminate immediately in these vessels. Every orifice corresponds to the centre of the base of a lobule; the number of orifices is therefore equal to the number of lobules forming the parietes of the canal in which the vein is contained. As an intralobular vein makes its exit from the base of every lobule, and as every intralobular vein terminates in a sublobular vein, it is evident that the base of every lobule is in contact with a sublobular vein, and that the hepatic-venous canals containing these vessels are formed by the bases of all the lobules of the liver. The parietes of the portal canals are also composed of lobules; but they are composed of the capsular surfaces of lobules, and not of the bases, nor do all the lobules enter into their formation as into that of the hepatic-venous canals; for, as the interlobular ducts, veins, and arteries, ramify in fissures continuous with each other throughout the liver, many of these vessels terminate in lobules situated at a distance from the trunks from which they arise, these distant lobules not contributing to form the canals containing the trunks. As all the lobules unite to form the hepatic-venous canals, and as a certain number only enter into the formation of the portal canals, it is evident that the former are more numerous than the latter.

(To be continued.)

SCIENTIFIC INTELLIGENCE.

ON MINERALOGY, GEOLOGY, NATURAL HISTORY, PHYSICS, *AND THE ARTS.*

We shall open this Department this month on notices of recent improvements in science, commencing with those in mineralogy.

MINERALOGY.

Article 1st.

This science has made rapid progress ever since minerals began to be arranged according to their strict atomic composition. In confirmation of this statement, it is only necessary to refer to the pages of foreign journals, and to those of our own country, but especially of the transactions of the Royal Society of Edinburgh. The arrangements, however, which have hitherto been made public, are not suited to the chemical systems of this country, and it is therefore, with pleasure that we inform our readers, that a system of Mineralogy, by Professor Thomson is in the press, completely adapted to the present state of the science, both as regards order and description. The following species have lately been analyzed, principally on the continent:

1. GRAPHITE—A beautiful specimen of this mineral from Ceylon, found in Gneis- in small places about the size of a nut yeilded. (*Edinburgh Journal, and Journ. der Chem: d' Erdmann*, 1833.) Carbon 62·8 Iron 5·4 Silica 21·6 Alumina 9·3 Lime 0·2 99·3

ANTHRACITE.—From the beds of baconniere at La Chauniere, gave Carbon 84·7 Water and bis tumen 8·0 Iron pyrites 4·3 Earthy matter 3·100·0 (*Ann. des mines*, vi.)

2. HYDRO-BORACITE.—Resembles gypsum, spec. grav. 1·9. Before the blowpipe

melts into a transparent glass, which does not change on cooling, and tinges the flame greenish. The mineral is slightly soluble in water, and is readily dissolved by nitric and muriatic acids with the assistance of heat. It contains Lime 13·298 1 atom Magnesia. 10.430 2 Boracic acid 49·922 2 Water. 26·330 3 1000·000. and its formula is (C+ M) B^2 + 3 Aq. (*Pogg. Ann.*)

3. SPINELLE.—M. Hermann, Abich (*Pogg.* 1831) has found this mineral composed of Silica 2·25 Alumina 68·95 Magnesia 25·72 Peroxide of iron 3·48 100·40.

4. PLEONASTE.—Consists of, according to Abich, Silica 2.50 Alumina 65 .27 Magnesia 17·58 Protoxide of iron 13·97 99·32.

5. CHABASITE.—E. Hoffman has given the following analyses of this mineral, from different localities : (*Pogg. Ann.*)

	Reibendorfal Bohemia. Sp. gr. 2·127	Fassathal. Sp. gr 2·112.	Parsburg. Sp. gr. 2.·075
Salica.....	48 18	48 63	51·46
Allumina	19.27	19·52	17·65
Lime	9 65	10 22	8·91
Soda....	1·54	0·56	1·09
Potash..... ..	0·21	0·28	0·17
Peroxide of iron.	— —	——	·85
Water	21 10	20·70	19·66
	99 95	99·91	99·79

6. RADIOLITE.—Pfaff found this mineral to consist of (*Schweig Seidel*, xxiii. 394.) Silica 48 Alumina 27 Soda 10 Magnesia 3 Water. 10 98.

7. HUMBOLDTILITE.—Kobell finds this mineral composed of Silica 43·96 Alumina 11.20 Lime 31·96 Magnesia 6·10 Protoxide of iron 2·32 Soda 4.28 Potash 0·38 100·20 and its formula is 5 Al. S + 9 CS + 3 ($\frac{5}{6}$M + $\frac{1}{6}$ F) S^2 + N S^2

8. PHENAKITE FROM URAL—Colour yellow, or like quartz.Sp. gr. 2·969 ; crystals rhombohedrons. The angle of the rhombohedron is very obtuse, being, according to measurement by the common goniometer, 114. Colour, none. Before the blowpipe it does not fuse *per se*. Fuses with difficulty with borax, and salt of phosphorus. It is found in Siberia, and has received its name from its resemblance to rhombohedral quartz, (φεναξ deceiver,) Hardness greater than quartz, but less than topaz, It contains Salica 54·54 Glucina 45·46 100·00 (*Poggendorff Ann.*)

9. MAGNESIA,—PROTOXIDE OF IRON—A mineral thus constituted has been descried by Breithaupt. (*Jahrbuch*. vi. 1833.) It is brought from N. America, and is accompanied with uraniferous spinelle. The crystals are imperfect octahedrons ; cleavage uneven and slightly conchoidal ; lustre semi-metallic ; colour deep greyish black, slightly magnetic ; sp. gr. 4·418—4·420.

Before the blow-pipe infusible, *per se*. With borax it behaves like the tetaniate of iron. It consists of protoxide of iron, much magnesia, a notable quantity of tetanic acid, and a little allumina.

10. JUNCKERITE.—The crystals of this mineral, according to Dufrenoy (*Ann. des Mines*, vi. 273.) are rectangular octahedrons, with nearly equal faces. Two of its cleavages are parallel to the diagonal planes of the octahedron, and from between them an angle of 1082 ·26 ; the third is perpendicular to the axes of the same octahedron, and lead to a rhomboidal prism under an angle of 1082 26′. Junckérite possesses a yellowish gray colour, very similar to certain varieties of Scheelin. Before the blow-pipe with borax it forms a yellowish, transparent, green glass. Sp. gr. 3·815. It was found in the mine of Poullaouen, (Finistere) in small quartz veins, which traverse the greywacké in which the mine exists. The name was applied in honour of M. Juncker the director, by M. Pailette sub-director, by whom the mineral was discovered. It consists of Protoxide of iron 53·6 Carbonic acid 33·5 Silica 8·1 Magnesia 3·7 Loss 1·1 100·00

Most of the carbonates crystallize in rhombohedrons. Those which do not, such as the carbonates of barytes, strontian, lead, &c., possess a crystalline from analogous to arrogonite. Analogy would, therefore, induce us to believe, that we know only one of the forms of these carbonates, and that if they were met with in another form, that form would be a rhombohedron. Junckérite presents a second example of a carbonate, occurring in the rhombohedral form, and in that of a right rectangular prism. The carbonate of lead crystallizes in the form of a right rhomboidal prism, under angle of 117º, which differs from arragonite by only 50 or 55 minutes ; but the sulpho-carbonate of lead, from Leadhills, described by Mr. Brooke, occurs in rhombohedrons with an angle of 107º 30′.

Dufrenoy considers that this combination is not a distinct substance, but only a carbonate of lead mixed with sulphate of lead, because the two elements are not in definite proportions, and because it would present the third instance of a dimorphous carbonate, and we should then have a similar relation between the angles of the rhombohedral carbonates 105º 5′, 107º, 107º, 30′, as with those of the right rhomboidal prisms 116º 5′, 117º, 118º. He conceives that the two forms which the substances endued with dimorphism present, are connected by a law like the two roots of an equation of the second degree, and that one being known the other may be deduced from it. The rhomboidal prism would be according to the few examples we possess, the form corresponding to the rhombohedron. He cites in favour of this idea, the cases of the *fer oligiste*, which crystallizes in octahedrons, and iron, which is observed sometimes in the form of octahedrons, and sometimes of rhombohedrons, but he does so cautiously, because he is not certain of the exact nature of these substances in their different crystalline states. He remarks, that the specific gravity of arragonite is a little above that of the carbonate of lime, being 2.9 to 2·7. The specific gravity of the prismatic carbonate of iron is 3·8, while that of spathic iron is 3·6. He infers, from these two examples, that when the atoms are so

arranged as to affect the prismatic form, they are more condensed than when they unite to form rhombohedrons.

11. FRANKLINITE, according to the analysis of Abich, consists of Silica ·40 Allumina ·73 Peroxide of iron 68.88 Oxide of manganese 16·32 Oxide of zinc 10·81 97·14.

12. DANAITE is found in Franconia. It is a gray metallic mineral, very brilliant. Sp. gr. 6.214. Possesses an arsenical smell when heated. According to Hayer it consists of Sulphur 17·84 Arsenic 41·44 Iron 32·94 Cobalt 6·45 Loes 1·33 100·00.

It has been named in honour of Professor J. Dana. (*Americ. Journ.* iv. 386.)

13. HYPOCHLORITE.—This mineral forms a superficial coating on clay-slate. It is associated with native bismuth, arsenical cobalt, sulphur of arsenic, and quartz. Its texture is foliated; cleavage compact or slaty; lustre slightly vitreous; colour green, more or less translucid. Sp. gr. 2.935—3·045. (*Ann. des Mines, vi.*)

14. ANTIMONIAL NECKAL. (POGOENDORFF ANN XXXI. 134.) H. Stromeyer and Hausmann have examined this mineral. It was found by Volkmar in the Andreasberger mountains, mixed with calcareous spar, galena, cobalt ore, and resembles *Kupfer* nickel, but is easily distinguished by the colour. It occurs in crystal of six-sided tables; fracture uneven. The extremities of the tables possess a strong metallic lustre. The colour of fresh pieces is copper-red, with a strong tinge of violet. The powder has a reddish-brown colour, and is darker than the colour of the fracture. It is not magnetic. Before the blowpipe it gives out neither a smell of garlic nor sulphur. Heated in a glass tube some antimony sublimes. Nitric acid separates the sulphur when galena is contained in it. The solution of this mineral in nitric, displaced by tartaric acid, gives, with sulphuretted hydrogen, an orange-coloured precipitate, which is taken up by potash, and by reduction with hydrogen, is converted into antimony. The solution, freed from antimony affords, with carbonate of soda, an apple-green precipitate, which dissolves in ammonia with a sapphire blue colour. It consists, according to analysis, of Nickeld 28. 946 27·054 Antimony 63·734 59·706 Iron 0·866 0·842 Sulphuret of lead 6·437 12·357 99·983 99·959.

(*To be continued.*)

ON THE MAGNETIC INTENSITY OF THE EARTH.

By C. Hansteen. (Poggendorff"s Ann. xxviii.)

The interesting phenomena of the declination and inclination of the needle, lead us to to the conclusion that in the southern as well as in the northern hemisphere, there are two points which appear to be the centres of the magnetic fore. If we call these magnetic poles, then the earth possesses four poles. If the magnet is placed in the northern hemisphere to the westward of one of these points, the north pole is directed to the eastward; and if to the eastward, it points to the west. When the intensity of the degree of the inclination is investigated round the pole of the earth in parallel circles, we find that it continues to increase until the meridian is attained in which one of these points lies, where it reaches its maximum.

An important point to determine with regard to the magnetism of the earth, is the degree of its strength or intensity. For a long time it was disputed by the learned whether the magnetic force was equally strong over the whole earth's surface, or was different in different places. Mallet who was sent in 1769, to observe the transit of Venus at Ponoi in Russian Lapland, (*Nov. Comm. Petrop. tom.* xiv) allowed magnetic needles of 6″ to move through an arc of 20° to 24°, and found that for the four first oscillations 14′ less were required than at St. Petersburg. The difference, however, was so small that no inference could be drawn from it.

The French Academy gave instructions to the mathematicians along with a La Perouse in 1785-88, to investigate the subject, and Lamanon* in a letter from St. Catharina stated that he had made a number of observations; but these as well as his subsequent ones were unfortunately lost by the disastrous shipwreck. Captain (afterwards Admiral) De Rossel made observations between 1790 and 1793 at Brest, Teneriffe, Amboyna, Java and Van Dieman's Land, and ascertained, that if we reckon the intensity at Amboyna in the neighbourhood of the equator unity, then it will be at Teneriffe 1·3, at Brest 1·4, and at Van Dieman's Land 1·6. Hence, it is inferred that the magnetic force at the equator is smaller than towards the pole. But as there is a difference of 5° of latitude between Brest and Van Dieman's Land, the former being in 48° and the latter in 43°, and as the intensity is greater at the latter than at the former place, it is evident that the intensity does not alone depend on the latitude, but that under one and the same latitude in one meridian it must be greater than in another.

In 1799 Humboldt found that the oscillations of the needle became constantly slower towards the South as far as about 7° S. L. in Peru, where the needle remained horizontal The direction of the magnetic force was also horizontal Southward from this point it begins to increase.

The smallest intensity being taken as unity, then the greatest force was in Mexico 1·32 and Paris. 1·35.

Captains Ross and Sabine increased our data with regard to the magnetic force, but from the observations of Parry and Franklin, Hansteen conceives that no accurate inferences can be deduced, as needles changed their magnetic state. The results of these observations as well as those of Oersted and Erikson in Germany, France and England; of Keilhau, Böck, and Abel in Germany, Tyrrol and Switzerland; of Keilhau in Spitzbergen; of Hansteen in Norway, Sweden, Denmark and Finland; (*Pogg.* xiv) and of Sabine in Africa, have afforded materials for a magnetic chart upon which the intensi-

* This ill-fated individual who filled the situations of Natural Philosopher, Mineralogist, and Meteorologist, was murdered by the natives of Mcuna, 11th December, 1787. See Dillon's Voyage.—Edit.

ties of the different parallels may be compared by what Hansteen terms *isodynamic lines*. From these it apperrs that the intensity in America in the same latitudes is much greater than in Europe, and that the isodynamic lines running parallel with the equator in America and in the Atlantic Ocean, pass towards the North-east, but again in Europe resume their parallelism with the equator. The line which represents, in the northern hemisphere, the intensity 1·5, a little to the north of Havanah, winds to the north-east by Iceland, and then east between Spitzbergen and the North Cape. This line of intensity again passes southward, and incloses the other magnetic north pole in Siberia. The difinition of this line is in conformity with the observations made by Hansteen.

Some time before Hansteen's tour in Siberia, Captain King who was sent by the British Government to examine the coast between Rio de Janeiro and Valparaiso, supplied with Hansteen's apparatus for determining the intensity, communicated many of his observations, through the Admiralty, to Hansteen. Hansteen procured a very interesting suite of data from Captain Lütke, determined between the years 1826 and 1829, from Behring's Straits and Kamschatka, through the Southern Sea to the Philippines. Dr. Erman of Berlin, who travelled through Russian Asia, embarked at Kamschatka and returned by Cape Horn, communicated also much interesting matter. The Emperor of Russia sent a number of observers to the Caucasus, in 1829, under professor Kupffer, who were supplied with the proper instruments for ascertaining the magnetic force. Captain Freycinet supplied materials likewise.

Hansteen has fixed upon the smallest intensity observed by Humboldt as unity, although recent researches have led to the belief, that this is not the absolute minimum, but that we must look for this point in Southern Africa.

The point of greatest intensity is New York, where it amounts to 1801. Yet this is probably not the maximum as the direction of the line appears to indicate, that the intensity on the West coast of Hodgson's Bay may be as high as 1·9. If we follow 66' of parallel from Hodgson's Bay to Christiana, it will be observed, that this Latitude cuts the different curves which indicate the intensities 1·8—1.7—1·5—1·4.

The isodynamic line of 1·4 which passes from Jamaica and the Azores through England to Christiana turns then easterly and cuts the 60 degree of latitude at St. Petersburg. In this parallel a minimum of intensity is observed between Christiana and St. Petersburg in the meridian of Abo. Following out this parallel to the east, the intensity is found to increase, being at Bogoslowsk 1·5, and at 120º east from Ferro 1·7. Between 120º and 130º it attains its maximum of 1·72, and further east it decreases, so that about 123º it is 1·7, and in the meridian of 168º, 16.

About 167º it reaches another minimum= 1-56 at Olutorskoi. The greatest intensity is observed in Siberia was detected by Lieut. Duo at Wilwisk = 1·76. Hansteen infers from these data, that in the northern hemisphere, two magnetic meat points or poles exist, and that the Western Pole, in North America, exhibits a stronger intensity than the eastern one in Siberia.

The observations with respect to the magnetic force in the southern hemisphere are extremely scanty; those of King and Lütke only extending along the coast of South America, while the whole of the Southern Atlantic, between South America and New Holland, is completely destitute of any magnetic notice. According to DeRossel, the intensity of Van Dieman's Land is 1·6. Tracing the 50º of latitude from South America to New Holland, we observe that the intensity about the meridian 290º east, must be somewhat above 1·5, and that it decreases to 0·9 about 30º east from Ferro.

Under Van Dieman's Land 170º east from Ferro, it appears to be 1·7. Thus, it may be inferred that in the southern hemisphere there are two maxima of intensity on these two points, where the declination and inclination of the needle have indicated the existence of two magnetic poles.

In the neighbourhood of the equator at Rio Janeiro, Bahia, the Island of Ascension, and St. Thomas, the intensity is=0·9. Through these points, if a curve be drawn, indicating this intensity, it will cut the equator at 30º east from Ferro, and traverse Africa and the Indian Ocean near the equator, and thence will pass through Java and Surabaya, where according to De Rossel it is 0·917. This line by reflection is curved to the south as far as 50ºS. L., and gradually reaches Bahia. If we follow a meridian from North to South, we observe that the intensity gradually decreases, and again increases on the south of the equator; but they differ much in different meridians. The intensity in the meridian 300º at New York is 1 8, (40º N. L.)and 1·0 in 7º S. L. in Peru. In the meridian 40º the greatest intensity is 1·55, while in 20º or 30º S. L. the intensity is scarcely above 0·8, which appears the smaller minimum, using the term comparatively. Hence, the smallest intensity 0·8 in Africa, is to the greatest intensity 1·9 in North America, as 1 to 19 or 1 to 2·4.

Another remark is that the intensity upon the whole, is greater in the northern than in the southern hemisphere. Thus we find the intensity at New York in 40º North to be 1·8, while in the same southern latitude in New Holland the magnetic force is only 1·57. The same fact holds with regard to the Siberian pole; for on the borders of China south of the Baikal sea in 50º N. L. intensity is 1·6, but in the same southern latitude only 1·3.

In the course of his investigations upon the earth's magnetism, Hansteen has made the interesting remark that the Polar lights derive their origin from the four magnetic points on the earth's surface, where the maximum of intensity is observed, and that the irregular movements of the needle during the appearance of the Northern lights, indicate the most intimate connexion between them and magnetism. These movements of the magnet appear in the same instant at distant places, for Hansteen observed on the 26th August, 1835, at Tornea a sudden diminution

of the magnetic intensity, while M. Arago at Paris at the same moment remarked a great movement in the needle, and Holmboe at Christiania, and Herzberg at Hardanger noticed an aurora.*

Lately it was determined at the request of Humboldt, that magnetic observations should be registered every hour at Berlin, Freiberg, Petersburgh, Kasan, and at Irkutsk an observatory is now in progress.

It is a point of some importance to attend to the relation between the mean temperature of a place, and its position in respect to the magnetic pole.

Mercury it is known freezes at Hudson'sbay in 55° N. L, which does not occur in Europe. In his journey in Siberia, Hansteen had the mercury in his thermometer frozen many days between Krasnojarsk and Nishne Udinsk. On the 30th of January in 55°¾ N. L. at Bagranowskaia, he froze three or four pounds of mercury. At Jakutsk in June 1829, Due and Erdman caused a well to be dug, and found the earth frozen at 30 feet, and where a thermometer fell below the freezing point, while in the air it was high. At Turnshansk (65°) Hansteen found the earth frozen considerably under the surface, while the temperature of the air was 25° R. (56°¼ F.) in the month of June. At Terra del Fuego the climate is very severe, although this island stretches from 23° to 55°, and is surrounded by the great ocean which tends to meliorate the climate. Hence it appears that the temperature in the vicinity of three of the magnetic poles, is much lower than in other places under the same latitude: With the fourth magnetic pole in the Indian Sea, we require the observation that there is in its neighbourhood no other land in a more southerly latitude than 30°. This idea of a connexion between the earth's magnetism and its temperature, has been taken up by Sir David Brewster; and in a copy of Hansteen's magnetic chart published by him in his journal, he has laid down two frigid poles in the northern hemisphere, the one in North America, the other to the North of Siberia. It may be asked, what is the cause of the low temperature at these points, and why does the magnetic pole change its condition? The principal cause appears to be that the greate rmagnetic intensity, the inferior temperature, and the aurora borealis proceed from a peculiar dynamic influence in the internal parts of the earth, which is yet unknown to us. If we had observations on the annual mean temperature for 200 years in different parts of the earth, especially in the greater geographical latitudes, we should possess data to determine whether or not the alterations in the magnetic pole produced a change in climate, and also if such a connexion does exist between these phenomena.

It is remarkable that in 1825, although Hansteen had previously paid great attention to the subject of the earth's magnetic intensity, he had no knowledge of a system further than that the intensity is greater at the poles than at the equator. In 1830, he sketched out the system upon a small part of the earth's surface, and in the same year completed his chart so far as observations allowed. Such is the consequence of the combination of men of power and cultivators of science.

* The discovery of the intimate connexion which subsists between the aurora and magnetism, was demonstrated by Dr. Dalton as early as towards the end of the last century, so that the remark of Hansteen must be considered only as a confirmation of the fact ascertained by the English philosopher.—Ed T.

IS UREA CONTAINED IN THE BLOOD AFTER THE EXTIRPATION OF THE KIDNIES?

The authors directed their attention to this point, which it is well known has been decided in the affirmative by Prevost and Dumas, (*Ann. de Chim.* xxiii.)

On the 14th January, 1832, the right kidney of a dog was removed, and in 14 days the wound healed.

The left kidney was cut out on the 11th February, and on the 13th the animal died. The substances taken from its body which were subjected to examination, were: 1. The liquid vomited; 2. The blood collected from the great vessels, amounting to 2 ounces; 3. The bile; 4. The contents of the small intestines. All these substances were dried separately on the water bath, and digested with hot water. The filtered liquid was precipitated by acetate of lead, and the lead removed by carbonate of ammonia. The fluid was evaporated to dryness, and treated with absolute spirits. The residue, after evaporation, was dissolved in a little water, and evaporated with nitric acid in a tube. The solution from the blood produced, with a drop of nitric acid, a yellowish white cristallized precipitate, which was collected on a filter, washed with cold water, and dried. A portion of it heated in a platinum spoon left a trace of carbon; another part, heated with potash, disengaged no ammonia: A third portion was heated with water and carbonate of barytes. The mixture was digested with absolute spirits, and filtered. This liquid, which was not precipitated by sulphuric acid, gave by spontaneous evaporation, long colourless needles, weighing 2 milligrames. They were soluble in water and spirits; were dissipated by heat, and precipitated by nitric and tartaric acids; they consisted therefore of urea.

From the vomited matter urea was procured, but in such small quantity as with difficulty to be appreciated. A brownish flacky precipitated was obtained from the bile, not completely resembling urea. No precipitate could be detected in the contents of the small intestines, or from the fæces.

Thus, the result of the German chemist's researches is, that urea can be formed without the aid of the kidnies. The French chemists, Vauquelin and Segalas, found no urea in the blood of a dog 48 hours after the extirpation of the kidnies, a circumstance which is probably to be ascribed to the short period which elapsed between the operation and the experiment.

NO UREA, OR SUGAR OF MILK, IN HEALTHY BLOOD.

Ten pounds of fresh blood from the cow, evaporated to dryness in the water bath, were digested with hot water, and again evaporated. The residue was taken up by water, and precipitated by acetate of lead. The filtered liquid was precipitated by carbonate of ammonia, and evaporated to dryness, and the residue digested with absolute spirits. The latter process was repeated, when by evaporation, a combination of soda, with a fatty acid, remained.

In the solution of the residue, nitric and oxalic acid accasioned no precipitate of urea, but they separated the fat acid (acid of oil?). It should be observed that, by this process, they had previously ascertained $\frac{2}{500}$ of urea, and $\frac{1}{100}$ sugar of milk to be appreciable. It appears, therefore, that cow's blood contains neither urea nor sugar of milk, or at least, in extremely minute quantity.

STATE OF THE GLOBE AT ITS FORMATION.

By M. Becquerel.

For the sake of giving some insight into the theories which are now emanating from chemical geology upon such an interesting topic, we shall proceed with the subject. Geologists in general consider that the sedimentary deposits whose layers are more or less inclined to the horizon, have been displaced by subterraneous agency, which has acted after their formation, and given to the different elevations on the globe particular characters: These causes having acted at different epochs, it is obvious that several classes of mountains have been elevated which are distinguished by the direction of their course. Von Buch has shewn that the soil of Germany may be divided into four systems, and Elie de Boumont has endeavoured to classify the successive elevation of the European mountain ranges by referring them to twelve epochs. In the Alps the secondary and tertiary beds are inclined, while in the Vosges and England all the formations superior to the coal are nearly horizontal, from which circumstance and others of a similar nature, Beaumont has obtained an argument of no small importance to his theory. The systems which he enumerates are: 1. of Westmorland and Hundsruck. 2. Of Ballon (Vosges) and Boccage (Calvados.) 3. Of the North of England. 4. Of Pays-Bas and S. Wales. 5. Of the Rhine. 6 Of Thuringerwald, Bohmerwald and Morvan. 7. Of Mount Piles, Coté d'or and Erzgebrige. 8. Of Mount Viso. 9. Of the Pyrenees. 10. Of Corsica and Sardinia. 11. Of the E. Alps. 12. Of the principal chain of the Alps from Valais to Austria.

Gneiss and granite are the rocks which have disturbed the newer formations, and protrude through them in the form of peaks. If we could determine in what state these important constituents of the globe existed in the internal part of the earth, and with what they were associated, a great step would be gained.

Becquerel considers the earth to have been primitively in a gaseous state. By the radiation of the heat into the regions of space the temperature of this mass of elastic matter was gradually diminished, condensing the different bodies according to their refractoriness and density. The metals would be first deposited and would form an immense bath in centre, from which an enormous heat would emanate, to retard the condensation of the other vapours. The first nucleus would be formed of unoxidized metals, after which less fusible substances would be deposited, producing new compounds. Potassium and sodium, in consequence of their strong affinities for a number of bodies, are convenient substances for effecting powerful results in these successive changes. The temperature continuing to lower, oxygen, hydrogen, and non-metallic bodies would act upon each other, and give origin to water and acids, which would produce a multitude of combinations. The first re-action upon the alloys of potassium with the more combustible metals would be strong, and give rise to heat sufficient to volatilize again many of the condensed bodies. At this period, the saline and earthy bases would be formed, and the oxygen having been absorbed by a great number of bodies, much azote would remain, in consequence of its weak affinity for the bases. As the diminution of temperature always continued, the crust formed over the metallic bath would occupy less space, and give rise to contractions and elevations which would produce the mountains according to Beaumont's explanation. The waters he conceives which began at first to cover the earth's surface were strongly acidulated, and in filtering through fissures in the crust would be accumulated in cavities, from whence they would fall on the fused metals, and give rise to earthquakes and volcanoes. These actions being frequently renewed the crust of the earth would increase in thickness, and would allow liquids to pass with greater difficulty, and eruptions would then become less frequent, in consequence of the diminution of atmospheric temperature. Then began organized beings to appear in the form of monocoty ledonous plants of colossal dimensions, flourishing in an atmosphere possessing a much greater proportion of carbonic acid than now exists in it, an idea which is strengthened by the circumstance ef the contemporaneous limestone containing shells of molluscous animals.

In the last of the transition formations we meet with remains of zoophytes and mollescous animals, then fishes, reptiles, birds, and mammiferous animals. The air being purified, and the earth having acquired greater stability, man appeared to rule over the hitherto spiritless globe. The world being thus formed, disintegration of the elevated matter, by electric chemical, and other agencies, affords an explanation of the newer deposits.

This is delicate ground to speculate on, M. Becquerel's explanations do not appear to be suited to the object to which they refer, but on the contrary, are bold and even rash.

Volcanoes.—The products of Vesuvius are lava, sometimes granite, mica slate, sulphurous and muriatic acid gasses, sometimes carbonic, rarely azote. In the fissures of the rocks are found common salt, sal ammoniac

chlorides of copper and iron, boric acid, sulphur, sulphuret of arsenic. The volcanoes of America emit gasses, differing from those of Vesuvius; Talima affords vapour of water, carbonic acid gas, and sulphuretted hydrogen, as well as those of Puracé, Pastoé, and Tuqueres. Humboldt relates that a shower of fish was discharged by a Mexican volcano. The most plausible theory considers these phenomena to be connected with a communication existing between the seats of volcanoes and the waters of the ocean; for the epoch when these eruptions were common, was when the communication was more easy. Then was effected that great depression in the West of Asia, whose lowest level is the Caspian Sea, and Lake Aral, (50 to 30 toises below the surface of the ocean) which extends from Saratov to Orenburgh, and appears to have an intimate connexion with the elevation of Caucasus and Hindoukha. This bason or crater resembles Hipparchus, Archimedes and Ptolomy, on the surface of the moon, which are thirty leagues in diameter.

(*To be Continued.*)

METHOD OF DESTROYING MICE &c., IN THEIR LURKING PLACES.

(*Ann. de Chim xlix*, 437.)

M. Thenard, in 1832, submitted to the Academy of Sciences a plan for destroying noxious animals, when they have taken refuge in their hiding places. The instrument of destruction is sulphuretted hydrogen, which he had remarked to be peculiarly deleterious to animal life. Animals when allowed to breathe the pure gas fall down as if struck with a bullet. Even when considerably diluted with atmospheric air, the effects are deadly. A horse dies in less than a minute in air containing $\frac{1}{250}$ of this gas. A dog of moderate size is speedily killed in air containing $\frac{1}{1000}$ while a greenfinch expires in a few seconds in air possessing $\frac{1}{1500}$ of sulphuretted hydrogen. Influenced by these facts, the French chemist proposed the employment of this gas to several individuals for the purpose of extirpating noxious vermin, but his suggestions being treated with indifference, he determined to put the method in practice by his own experiments.

His first trial was in an apartment infested by rats, which showed themselves occasionally during the day, and at night were actively engaged in plundering a chest of oats, to which they had access through an aperture of their own formation. The holes by which they retreated amounting to 18 in number, Thenard adapted to each of them in succession retorts capable of containing half a pint measure, by introducing the beak of the retort and filling up the interval round its neck with plaster. Sulphuret of iron was deposited in the retort, formed from a mixture of iron filings, sulphur and water, and dilute sulphuric acid was introduced by means of the tube placed in the tubulure. The sulphuretted hydrogen was disengaged with great rapidity, and in a few minutes not a rat remained alive in the building. His next experiment was in an old abbey where he was equally successful, and having opened up part of the wall he found many dead rats. He recommends the application of this method to the destruction of moles, foxes, and all animals which cannot be extirpated by the usual means. Thenard then gives popular directions for the formation of the materials required to produce the gas.

Mix 4 parts of iron filings, 3 parts flowers of sulphur in a mortar with a pestle. Place the mixture in a convenient vessel, and moisten it with 4 parts of boiling water, stirring it with a piece of wood or glass. Add gradually afterwards 4 parts more of water, and introduce it into the retort. Pour upon the mixture common oil of vitriol diluted with five times its volume of water, and continue to add it gradually till the effervescence ceases. Should any of the gas escape into the apartment and occasion inconvenience, it may be removed by dropping a little sulphuric acid upon bleaching powder. The holes should be closed immediately, to prevent the disagreeable effects of the putrefaction of the carcases of the animals which have thus been destroyed.

TRANSMISSION OF HEAT THROUGH DIFFERENT SOLID AND LIQUID BODIES.

By M. Melloni.

Ann. de Chimie, lvi.

Radiating heat passes immediately, and in greater or less quantity, through a certain class of solid and liquid bodies. This class is not precisely identical with diaphanous bodies, as opaque plates or such as possess only a slight transparency, are more *diathermanous*, that is to say, more permeable to radiating heat than other plates completely transparent.

Different species of calorific rays exist, which are all emitted simultaneously, and in different proportions by burning bodies. Rock-salt formed into a plate, and successively exposed to rays of the same force, proceeding from different sources, transmits immediately, the same quantity of heat. A plate of every other diathermanous substance, placed in the same circumstances, transmits quantities more feebly in proportion as the temperature of the radiating source is less elevated; but the differences of each transmission diminishes in proportion to the thinness of the plate. From whence it follows, that the different rays of heat from different sources are intercepted in greater or less quantity, not on the surface, and from an absorbing power, which varies with the temperature of the source, but even in the interior of a plate, by an absorbing power similar to that which preserves certain kinds of light in a coloured medium.

We arrive at the same conclusion in considering the loss which the rays of heat from a source of high temperature sustain in passing through the successive elements of which any other diathermanous plate besides rock-salt consists. In short, if we imagine the plate to be divided into several equal slices, and if we examine by experiments, the proportion of the quantity lost, to the quantity falling upon

these slices, we shall find that the loss thus calculated, decreases rapidly with the distance from the surface, but the decrease becomes less sensible, so that the loss ought to take an invariable value when the rays arrive at a certain depth. This is precisely what happens when ordinary light enters a coloured medium, the loss of intensity being at first great, and gradually diminishes. A third proof of the analogy which exists between the action of diathermanous bodies upon radiating heat, and the action of coloured media upon light, is derived from successive transmission through heterogeneous screens. The luminous rays which proceed from a coloured plate pass abundantly through a second plate similarly coloured, and undergo a great absorption, in proportion as the colour of the second plate is more or less analogous to the colour of the first.

There is only one diaphanous and colourless body, which acts in the same manner on luminous and calorific rays. All others allow every species of light to pass indistinctly, but they absorb certain rays of heat, and transmit others. Thus, we find in these bodies a true calorific colouring power, which is invisible, and is called by the author, *diathermansie.*

The following table exhibits the relative diathermanous power of different substances:—Rock-salt, clear, 92; Flint-glass, clear, 67; Sulphuret of carbon, colourless, 63; Chlorideof sulphur, dark, 63; Rock-crystal 62; Rough topaz, clear-brown, 57; Brazil topaz, clear, 54; Crown-glass, clear, 49; White agate, transparent, 35; Barytes spar 33; Oil of turpentine 31; Nut oil, yellow, 31; Oil of colsa 30; Aqua marine, blue, 29; Borax, dull, 28; Tourmaline, Brazil, 27; Balsam Capiva 26; Adularia 24; Ether 21; Gypsum 20; Sulphuric acid 17; Nitric acid, Alcohol, Citric acid 15; Alum 12; Pure water 11

The colours introduced into a diaphanous medium always dimihish more or less its diathermanity; but they do not communicate the property of detaining certain kinds of rays of heat. They act upon the transmission of radiating heat, as brown substances on the transmission of light. There is an exception in opaque green and block glass, but these two colouring matters appear to act by modifying the diathermanity, a quality which is independent of colouration. The quantity of radiating heat which traverses two polarizing plates of tourmaline does not change, when the angle of the axes of crystallization is increased; the rays of heat cannot be polarized by this mode of transmission, and in this respect they differ totally from the rays of light. They resemble light however, in the property of refracting, which is proved by rock salt, the only one of the diathermous bodies capable of transmitting calorific rays from any source.

In ordinary prisms they cannot produce refraction except upon a certain portion of radiating heat, for the glass intercepts several kinds of rays of heat proceeding from very hot sources, and absorbs almost the whole heat which is emitted by bodies below incandescence. Hence, the doubt which has been hitherto entertained upon the refrangibility of obscure heat.

SEVERITY OF LAST WINTER IN AMERICA.

The coldest weather on record in Albany, previous to the present year, was January 21, 1827, when the thermometer stood at--23º. On the 4th January, 1835, the temperature was—32º. At Hartford, on the same day, the thermometer stood at—24º8. At New Haven, (Connecticut)—23º, at seven o'clock in the morning. At Saco, (Maine)—27º·4. At Goshen, (New Jersey)—32º. At Montreal,—35º. Lebanon (New York)—40º. Montpelier, (Vermont)—40º. It is worthy of remark, that the greatest cold was experienced in the interior, the thermometer being highest at the sea-coast. At Dartmouth the thermometer was at—32º at sunrise, and the barometer 29.76 inches. A brilliant aurora was seen. A great snow storm reached Dartmouth on the 30th December, 1834, having commenced 24 hours earlier at Washington. The depth of snow was 20 inches at Baltimore, 15 at Boston, and 10 at Darthmouth.—At New Haven on the 2nd January, 1767, the temperature was—26½º. (*Silliman's American Journal,* xxviii. 177.)

NEW METHOD OF DRYING PLANTS.

Dr. Hunefeld recommends a new method of drying plants, by covering them first with the powder of lycopodium, and then placing them in a vessel containing chloride of calcium. By this method the colour and flexibility are preserved. On the 29th of July, 1831, the thermometer being at 53½º, Dr. Göpper of Breslaw, placed in a 24 ounce glass two leaves of the hyacinth, and a specimen of the *Fumaria officinalis,* with two ounce of muriate of lime, in such a manner that the plants were not in contact with the salt. On the following day the leaves began to dry, and on the 3d of August, although not dead, the hyacinth leaves were capable of being reduced to a fine power. Even fleshy plants as the *Sedum rupestre* are so much dried in seven days, that they may be pulverized. The use of the lycopodium powder is to prevent the sap from escaping.—(*Brande's Pharm. Zeit.* 5. 1835, 71).

ROYAL INSTITUTION.

Dr. FARADAY ON SOUND.

15th May,

Dr. Faraday illustrated the recent discoveries of Savart upon sound, which although well known are still of a highly important nature. They establish the fact, that low notes when formed by drawing a bow across the edge of a plate of glass strewed over with sand, exhibit the points of quiescence in the regular form of a right angle; while in membrance, irregular figures are produced; the sand being arranged along the quiescent parts. When lycopodium is used, however, it is thrown upon the points of vi-

brating bodies, when allowed to communicate their action to membranes, is interesting, because it illustrates the nature of the ear. An experiment, devised by Mr. Wheatstone, exhibits the connexion of the bones of the ear with the membrana tympani. A membrane is stretched over a basin, and a piece of flat wood communicates with the membranes, projecting over the rim of the basin, externally to a considerable extent. The wood and membrane are strewed over with sand, and a bell-glass which has been vibrated, is brought into the vicinity of the membrane. The sand immediately arranges itself in a straight line along the wood; but the same result does not ensue, when the vibration is communicated through the wood.

The effect which the bones of the ear have in varying the tension of the menbrana tympani, was illustrated by means of a membrane streched over the extremity of a conical vessel, with a bit of wood so adjusted, as to admit of being pressed at pleasure to the membrane. Dr. Faraday concluded by stating, that the phenomena of electricity are similar to vibration, and that they appear, (though he spoke diffidently) to him to be closely analogous, and that the phenomena of light are best explained on the same principles. Chemistry, he observed, was nothing but electricity. Hence, all philosophers are now looking out for a general principle, much higher than gravitation.

MICROSCOPIC OBJECTS.

Mr. Andrew Prichard, Pickett Street, Strand, has just published a useful little work for such persons as take an interest in examining the beauties of the minute works of nature. It contains a list of 2000 microscopic objects, and is intended to serve as a guide for selecting and labelling subjects of natural history, botany and mineralogy. Some good observations are prefixed in reference to mounting microscopical subjects, with remarks on the circulation of animals and plants.

ISINGLASS.

From the experiments made by Mr. Smith in the United States, it appears that the intestines of the fish the *gadus merluccius* furnish the purest species of isinglass, (*Journ. de Pharm.* xx. 593,) not inferior to that obtained from the sturgeon. The summing bladder of this fish is larger than that of other species of the same family. It is cut out and washed with pure water, and then dried in the sun. When partially dry it is pressed between wooden rollers as thin as paper. The long stripes of isinglass which are met with in commerce are the intestines of the *gadus morrhua*.

PRIZE OF THE IMPERIAL ACADEMY OF SCIENCES OF St. PETERSBURGH, FOR 1836.

From a considerable period it has been known that in some insects, besides the abdominal nervous-system, there exists another very delicate series of nerves, situated on the dorsal portion of these animals. Something analogous has been noticed in the class of *annelides*, as in the leech, &c. This system deserves attention, because it seems to bear some resemblance to the sympathetic nerve in vertebrated animals. The Academy proposes for the subject of the prize for the ensuing year, "Researches upon the different degrees of development of the intestinal nerves in invertebrated animals, accompained with exact and detailed design." They request attention to the following points:—

1. What is the development of the intestinal nervous system in those classes of invertebrate animals where it has been observed? (especially tenthredimates, ichneumones, and some sections of hemipipterous and dipterous insects.)

2. Can a system of intestinal nerves be demonstrated in any invertebrated animals besides those in which they have been already found?

3. Can the different forms of the system of intestinal nerves be reduced to certain general types?

4. Do these genearal types agree with established classifications, or do the intestinal nerves follow a peculiar development?

5. What relations subsist between the intestinal system of nerves and the rest of the nervous system, in reference to ramification and size?

6. What reasons can be alleged for or against the analogy which exists between this nervous system and the sympathetic nerve in superior animals?

The academy will grant a prize of 200 ducats to the person who shall resolve this question; but in case none of the essays sent are completely satisfactory, the author of the best of these will receive according to the extent and importance of his work, an encouraging prize of 100 or 50 ducats.

IRON WORKS IN THE URALIAN DISTRICT.

In this district there are nine iron works, of which, the oldest, Nischney Taguilsk, was built in the year 1702, by Demidowitsch Demidoff. It was so improved by Nicholas Demidoff that it produced annually five millions of roubles (£833,333 6s. 8d.) Iron and copper are smelted, gold and platinum are washed, and lead full of silver and diamonds are obtained. The gold brings about 1,800,000 paper roubles, the platinum 1,152,000 roubles. After paying expenses, the product of the iron, gold, and platinum, amounts to from 2,600,000 to 3,000,000 roubles (£433,333 or £500,000).

To the north of Taguilsk lies the iron work of Kuschva, on the mountain Blagodat. The vein consists of magnetic iron ore.—(*Brande's Pharm Zeit.* 1835, 8).

MEDICAL TOPOGRAPHY OF INDIA.

COMPILED FROM VARIOUS WORKS AND MANUSCRIPTS

BY

THE EDITOR OF THE INDIA JOURNAL OF MEDICAL AND PHYSICAL SCIENCE.

The following is an interesting account of the Baboo Koond, a burning well, situated near Chittagong as described by the authory of the memoir of Sir W. Jones.

"The burning well is situated about twent two miles from Chutgaon, at the termination of a valley surrounded by hills. I visited it in 1778, and from recollection am enabled to give the following account of it. The shape of the well or rather reservoir is oblong, about six feet by four, and the depth does not exceed twelve feet. The water, which is always cold, is supplied by a spring, and there is a conduit for carrying off the superfluity. A part of the surface of the well, about a fourth, is covered with brick work, which is nearly ignited by the flames which flash, without intermission, from the surface of the water.

"It would appear that an inflammable vapour escapes through the water, which takes fire in contact with the external air. The perpetuity of the flame is occasioned by the ignited brick work, as, without this, much of the vapour would escape without conflagration. This was proved by taking away the covering of brick work, after the extinction of the heat, by throwing upon it the water of the well."

"The flames still continued to burst forth from the surface, but with momentary intermissions, and the vapour was always immediately kindled by holding a candle at a small distance from the surface of the water. A piece of silver placed in the conduit for carrying off the superfluous water was discoloured in a few minutes, and an infusion of tea gave a dark tinge to the water. On the side of a hill distant about three miles from the burning well, there is a spot of ground of a few feet only in dimension, from which flashes of fire brust on stamping strong with the foot. The appearance of this spot resembled that of earth on which a fire had been kindled."

We follow Major Pogson's description of his visit to this singular well.

"The path, if it may so be called, was for some distance up the bed of a brook, in which stones were placed to meet the pedestrian's feet; but the arrangement hardly answered the purpose for which it was intended. While doubling the brook, the hills on both sides rose majestic, beautifully covered with verdure. Among many uncommon forest trees and plants, the wild plantain and guava were conspicuous."

"We came at length to a flight of 32 steps. On their top are two munduls or temples, containing the Lingam—one on each side. To the left is a nobut khanu, or orchestre; adjoining it another mundul and Lingam; beyond it a square building with three doors on each front, called the Nuoruttun of Muhadeo. To the right is another mundul, all undeserving minute description. In front is a building about thirty feet square, over the spring; the descent to it, by a flight of steps, is about fifteen feet; the rising heat was like that of a hot bath. Flames, in successive flashes, were playing on the surface of the water, which, from a column of perpetually rising bubbles, appeared to be boiling. The air they contained, ignited as it came in contact with an oven-like furnace, which the flames fed, and rendered on one side red hot. The heat of this self-ignited furnace rendered the surface of the water tepid, but it is naturally cold. In order to condense, and thereby perpetuate, the flames, about one half of the spring is built over, with an aperture in the centre of the arch, through which, looking from the terrace above, the flames are seen, playing on the water. Persons bathing took in their hands and on their clothes the water with the flame burning on it. The uncovered part is a square of less than five feet, and the covered part about the same dimensions. The water is brackish sulphureous and chalybeate. A servant drank as much of it as he could hold in both hands united, twice filled, and was so severely purged, that he remained behind, and laid down until its effects went off."

"There are seven other springs within a circuit of six miles, namely the Nuolukka koond, the Kooaree koond, the Dudhee koond, the Burma koond, the Sooruj koond, the Chunder koond, and the Seeta koond.

The water of the Balwa koond has an exhiliratiug effect, occasions a slight head ache, and a sensation of fulness, which soon go off. Its effects are diuretic, slightly aperient, and creative of hunger.

The Nuolukka koond is a warm spring. The vapour it produces ignites on the application of a flame; the taste in no respect differs from sea water.

The Kooaree koond is a hot saline spring, tastes sulphureous and chalybeate, and not unpleasant. The vapour ignites on applying a flame.

The Dudhee koond is a cold salt spring. The vapour it produces does not ignite.

The Burma koond is a very hot and salt spring, apparently chalybeate. The vapour ignites on applying a flame.

From Nature by Col: George

SÍTÁ CUNDÁ Chittagong

The Sooruj koond is also hot, salt, and its vapour ignites on the application of a light.

The Chundur koond is on a hill, salt, and exceedingly hot. It is said to have appeared within the last four months.

The Seeta koond is of pure limpid water.

The Balwa koond was the only one I visited. I subsequently obtained information of the other springs, and sent a careful person to bring a description and some bottles of the water of each. It is now under analyzation, and a subsequent page will communicate the result, if I succeed in obtaining it, of which however, I am doubtful, in consequence of the delay which has taken place."

On the subject of the climate and diseases of this country we are fortunately in possession of valuable documents, Previous to the inundation it is well khown that no spot in India surpassed Chittagong for its salubrity: since then however intermitting fevers have prevailed of a type which render change of air in most instances indispensable to recovery. And our sepoys who have been stationed at this spot suffered materially in their constitutions. But we may hope that a great deal of the late unhealthiness of Chittagong has proceeded from that universal cause to which the recent unhealthiness of most of our stations in India is to be ascribed, and that the favorable change in seasons, commencing with 1834 with all its genial influence here. The following table* shews the diseases and deaths for three years A paper by Dr. Macdougal on the Topography of the Eastern part of the Chittagong district published in the Transactions of the Society shews the unhealthiness of the uncultivated boundaries of Chittagong.

"The cultivated land in the south-eastern, part of the district of Chittagong, where the troops have been stationed, is of small extent only, and intersected by considerable ranges of hills, which run generally north and south and are covered with thick low jungle. Beyond the more distant ranges, tracts of jungle and marsh extend, forming the boundary in this direction between the territories of the Honorable Company and the Birman empire. This part of the country is thinly inhabited by savage, and almost unknown races of people, called Cookies and Jooms, by herds of elephants, and beasts of prey, especially leopards and tigers."

"The camp was originally fixed at Cox's Bazar, on an elevated site, exposed towards the west and south-west to the sea breeze. It was changed on the 11th November, to Ramoo, about ten miles to the eastward. This village is situated on the north bank of the Ramoo river, in the centre of a large plain, consisting chiefly of rice fields, and containing numerous tanks. The river at Ramoo is of considerable size, about eighty, yards wide, and subject to the influence of the tides for a long way above the village: after a serpentine course, it runs into the sea at Cox's bazar."

Dr. Macdougal is of opinion that this part of the district is one of the most unealthy in India to our Up Country Sepoys.

On the Causes of Sickness.

"They are referrible to the influence of climate on men already debilitated by previous residence in the district, and from the want of the usual and natural food of the sepoys, *ottah* for which they substitute rice, often not of the best quality. This frontier, however, cannot but prove unhealthy to a corps coming into it, under circumstances the most favorable, from the immense tracts of jungle with which the cultivated portions of the country are surrounded, and to the effluvia and exhalations from which, I ascribe the prevalence of intermittents in their various forms. Another fertile source of sickness, falling under the head of climate, was the remarkable change of temperature, from the violent heat of the day, to the cold and damp air of the night, and especially of the early part of the morning, when thick heavy fogs with easterly winds prevailed, during which the warmest clothing was scarcely sufficient to retain the natural heat of the body. Fahrenheit's thermometer during the day, in the shade, generally ranged between 80° and 85°. I ascribe the sickness of the privates in part to the want of warm and comfortable blankets or quilts during the night, the men having left their cantonments lightly equipped."

On the subject of seasons Dr. Macdougal observes, "that in this district, the rainy season sets in earlier, and continues later than in most other parts of the province of Bengal; and the rainy season of last year could not be said to be over until the middle of November."

During the early part of November there were very heavy falls of rain, accompanied with easterly winds blowing over tracts of jungle. In consequence, intermittents and bilious remittents became so prevalent, that, every native soldier belonging to the corps was seized with one or other of these ailments, since the departure of the detachment from Chitagong; admissions into hospital during the months of November and December 1823, and January 1824, amounted in all to 549."

On the subject of diseases, generally it is stated that,—

"The sickness had been febrile,—in the first instance bilious remittents, very commonly changing in the course of a few days into regular quotidians, which again changed into tertians and quartans, and in a few cases assumed decidedly a typhoid character. The strongest men in camp, when attacked with these fevers, were soon reduced to a state of extreme debility; and even the European officers, who had been attacked, (and they have suffered in nearly an equal properion with the natives,) have not withstood them better, although enjoying many more comforts, better food, and warmer clothing.

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* Vide page 159.

On the peculiar symptoms of the Fevers.

The agueish paroxysms were in general violent; accompanied during the hot fit with acute, and almost intolerable headache, and commonly with a slight degree of incoherency. Several patients, and especially two of the officers, had oppressed and difficult breathing, on each recurrence of the paroxysm, and attended with a dull pain on any attempt at free inspiration. The stomach and biliary system, in every case that came under observation, were greatly disordered, as appeared by the want of appetite, sickness, bilous vomitings, and still more by the state of the tongue, which was loaded, furred, or encrusted. But, by far the most marked features of the above ailments were great general debility, and a sad lethargic depression of spirits, which anticipated only the most unfavorable termination of the illness. The frequent changes of type have already been hinted at, shewing abundantly the close affinity between the different genera of this order of diseases. Few cases preserved the same character throughout—many indeed approached to continued fevers in the commencement; but very distinct remissions and exacerbations soon occurred, both of which, in the course of a few days, observed their respective periods with wonderful regularity."

Terminations.—Out of 549 cases treated 21 casualties occurred. One European only (the quarter master of the corps) died. Nine men were sent away for the benefit of change of air, whose cases resisted the usual remedies The recoveries to flesh and strength, even in the most favorable cases, were very slow. In the less fortunate, the men were reduced to the last stage of emaciation, to which general dropsy, or incontrollable bowel complaints supervened. The fluxes appeared to me to belong more to colliquative diarrhœa than to dysentery, and to have arisen from broken down strength, from the want of proper food, or from any kind of irregularity or excess. This opinion was confirmed by a consideration of the *juvantia* and *lædentia*; for purgatives, even in moderate doses, were not found to answer so well as opiates, astringents, and often repeated small doses of diaphoretics.

From want of leisure, and suitable conveniences, no dissections were instituted, nor was my curiosity much excited with respect to them; for saving the diseased state of the intestinal canal, which indubitably existed, I believe few other morbid appearances would have been met with."

Treatment.—Both in the commencement and progress of these fevers, frequent and powerful doses of purgative medicines were required. Without their previous free exhibition, I am satisfied, the febrifuge remedies rather did harm than good. It was only when the stomach and intestines were thoroughly cleared, and the loaded tongue began to assume a clear and healthy appearance, that I had recourse to any other remedies. To effect these intentions, the most active doses were required; so much so, that experience only, in the treatment of this epidemic, encouraged me to persist in their use. What I found answer best on the whole, was a pill of calomel and gamboge, which if given at night, was followed next morning by a full does of rhubarb and jalap; or if the pill was given during the day, after the interval of an hour or two, the same does was exhibited. Whenever the heat and febrile action were violent or continued, a combination of James's powder, calomel, and rhubarb, frequently repeated in considerable doses, afforded the most speedy relief; and in particular, to the cases of oppressed and difficult respiration. These powders determined to the surface, and generally operated freely, without irritation, by stool.

I tried emetics, ipecacuana, and tartar emetic, singly and combined, at different times. which appeared to me the most favorable; but they did not answer my expectations. I have stated, that debility was a most prominent feature in these fevers; and the operation of emetics never failed to increase it, by the shock they gave the constitution. In no case did they appear to me to do good.

The fevers were not unfrequently cut short by the well-timed exhibition of the purgatives; but if they advanced, it was my constant endeavour to prevent or shorten the paroxysms by giving free doses of laudanum, combined with the compound spirits of lavender, and often with the happiest effect. During the intermissions, I used the cherayta, with the liquor arsenicalis. My usual form was, to a quart of the cherayta infussion to add one dram of the liquor arsenicalis; and of this mixture, throughly shaken, the patient was directed to take two ounces thrice a day, or oftener, according to circumstances. I have frequently had to prescribe the arsenial solution in much larger doses, to the extent of twelve or fifteen drops thrice a day, with safety and advantage.

In the cases that did not yield to the arsenic, I had recourse to the powder of red Peruvian bark; and though it was of consequence to husband this remedy, under the existing circumstances, I found the free exhibition of it the most successful and economical. I was in the habit of giving the patient two scruple doses of it every hour, or every two hours, taking care to avoid the bringing on of sickness, which but seldom occurred, provided purgatives had been prepreviously premised. As soon as the patient escaped his usual attack, I resorted to the cherayta, which was continued for the three or four first days of his convalescence, in order to restore appetite and assist digestion.

At the period the foregoing accounnt was given when the use of quinine was not known in the East. We have ourselves had experience in the treatment of fevers prevailing in this part of India: the most successful will be found in the administration of a large dose of Hyd. Sub. followed with free purgative of magnes Sulph. in Infus Senna and afterwards the adminiistration of Sulph. quinine in five grain doses, every two hours for two days repeating the use of the latter for one day two days preceding each quarter change of the moon. This course should be observed for about six weeks.

Statement shewing the diseases and deaths in Corps stationed at Chittagong during the years 1832. 1833, *and* 1834.

DISEASES.	1832. 11th Regt. Native Infantry.							1833. 11th Regt. Native Infantry.							1834. For 11 months from Jan. to Nov. 11th Regiment N. I.							1834. (For one month) Dec. 55th Regt. Native Infantry.							Total for 12 months 1834. of the 11th and 55th Regt. Native Infantry.					
	Remaining in Hospital 31st Dec. 1831.	Admitted during the year.	Total.	Discharged during the year.	Transferred.	Absconded.	Died.	Remaining.	Remaining in Hospital 31st Dec. 1832.	Admitted during the year.	Total.	Discharged during the year.	Transferred.	Absconded.	Died.	Remaining.	Remaining in Hospital 31st Dec. 1833.	Admitted.	Total.	Discharged.	Transferred.	Absconded.	Died.	Remaining.	Remaining.	Admitted.	Total.	Discharged.	Transferred.	Absconded.	Died.	Remaining.	Admitted during the year.	Total.	Discharged during the year.	Transferred.	Absconded.	Died.	Remaining.
Appoplexy																		1	1	1																	
Asthma																										6	6	3			3		1	1	1			
Cholera	2	3	5	5																													6	6	3			3	
Cutaneous diseases																		2	2	2													2	2	2				
Diarrhæa	15	73	88	80			6	2	2	65	67	62	1		1	3	3	40	43	39	2		1	1	7	59	66	37			5	24		99		76	2		6	24
Dropsy																		3	3	3													3		3				
Dysentery	2	4	6	4				1	1	3	4	3			1																		6		6				
Dysury		1	1				1																															
Dislocations and sprains		2	2	1				1	1		1	1						6	6	6													6		6				
Fractures																																						
Fevers — Continued		1	1				1																															
Fevers — Remittent																																						
Fevers — Intermittent	10	194	204	183			7	14	14	328	342	317	6		12	7	7	248	255	193	11		1	50	10	39	49	17			7	25		287		210	11		8	25
Gonorrhœa																		1	1	1													1		1				
Hepatic Affections — Hepat acut																																						
Hepatic Affections — „ Chronic										1	1	1																										
Hepatic Affections — „ Icterus																																						
Inflammations — External		1	1	1						2	2	2						1	1	1													1		1				
Inflammations — Thoracic																		1	1	1													1		1				
Inflammations — Enteritic																																						
Mania										2	2	2						4	4	3				1									4		3				
Opthalmic Affections — Acute		4	4	4						4	4	3				1	1	6	7	7													6		7				
Opthalmic Affections — Chronic																																						
Phthisis Pulmonalis	1		1				1											2	2	2													2		2				
Rheumatism	11	14	25	23			1	1	1	17	18	18						7	7	5	1			1	1	3	4				4		10		5	1			4
Spleen										1	1	1						2	2	2						1	1				1		3		2				1
Syphilis		1	1	1						1	1	1						1	1	1						1	1				1		1		1				1
Small-pox		6	6	5				1	1	1	2	1				1	1	2	3	2				1	1	4	5	2			3		6		4				3
Ulcers		2	2	2														1	1	1													1		1				
Wounds																																						
Other diseases	4	82	86	79			2	5	5	138	143	136	3		2	2	2	109	111	108				3	4	12	16	13			3		121		121				3
Total	45	388	433	388			20	25	25	563	588	548	10		16	14	14	437	451	378	14		2	57	24	124	148	72			15	61		561	9	450	14		17	61
Average strength of corps.				723								716								696								745							720				

MEDICAL AND PHYSICAL SOCIETY'S MEETING.

Saturday, February 6, 1836.

J. Langstaff, Esquire, First Member Medical Board, in the chair.

MEMBERS ELECTED.—Mr. R. O'Shaughnessy proposed at the last meeting.

Dr. Goodeve in addition to the proceedings of the last meeting, stated that he had communicated to Mr. Raleigh the objections made to his being re-elected without going through the form of ballot, That gentleman stated in reply that as others had been elected without going through that form, he desired that the question might be submitted for the decision of the resident members: with which request he (Dr. Goodeve,) had complied and that the resident members had voted for the re-election without ballot.

Mr. Egerton rose to order and begged to be informed on whose authority that circular had been issued.

Dr. Goodeve said on his own authority: he had consulted the rules and had ascertained that Mr. Raleigh's objection was valid.

Mr. Egerton desired, if there was no objection to his request, to hear that rule read. Dr. Goodeve replied that the regulations were not upon the table, but re-capitulated his sentiments as to the necessity of complying with Mr. Raleigh's request.

Mr. Egerton, with the President's permission, would detain the meeting a few moments by explaining that questions of the nature now discussed could be decided only at a meeting of the Society convened with the sanction of the president. In the present instance the president had not been even consulted previous to the circular being submitted for the votes of the resident members. He, Mr. Egerton, begged to observe that Mr. Raleigh had retired from the Society under very peculiar circumstances. It was argued on one occasion that the mofussil members should have votes and that the resident members should vote by proxy. Those propositions were opposed on the ground that if the resident members could find time to share the pleasures of society, time might be spared for attending at the meetings. The same argument was urged against the circulars being sent to resident members in order to induce them to attend the meeting to hear the papers read and discussed. Mr. Raleigh happened to take opposite views, and was in the minority, and therefore resigned. The occasion of the rule being read was that on the operation of Half Batta many members from straitened circumstances withdrew from the Society, it was therefore agreed that these might any time return to it when their circumstances admitted of their doing so, without going through the form of ballot. Hence Mr. Egerton argued that Mr. Raleigh's case had no reference whatever to the rule which had been quoted from the records. On the subject of the circular, Mr. Egerton begged to state that all the resident members had not seen it, and therefore had not voted. His friend on his left (Dr. Dempster) for instance had not seen it.

Mr. Hutchinson here rose, and said that he had not voted for it.

It was then proposed by Mr. Egerton and seconded by Dr. Dempster—

That papers circulated for votes upon any subject are contrary to the usage of the Society and wholly inadmissible.

Dr. Goodeve in reply observed that if he had been out of order he was sorry for it; and on that question he would take the sense of the Society; it was a mistake of the writers, if the circular had not been sent to all the members; it was not his mistake, and he claimed the indulgence of the members on the ground that he was new in office.

Dr. Stewart then brought forward a copy of the regulations, and read the following to the meeting: Rule 9 page 5 "THE LAWS OF THE SOCIETY SHALL BE SUBJECTED TO REVISION ONLY ONCE A YEAR." Whence Dr. Stewart contended that as other gentlemen had been re-elected without ballot according to a rule to be found in the records: that law still existed on which Mr. Raleigh justly claimed his right to re-election without ballot. He added that he had heard the present proposal objected to at the last meeting with equal surprise and regret; surprise because he thought that the Society ought to be but too happy to welcome back on any terms a member of such zeal and talent, who had been driven to quit it by circumstances of annoyance and feelings of temporary disgust, into which Dr. S. did not wish to enquire, but which, it was well known, were at the time shared by a considerable party, but which happily no longer existed. He should also regret its adoption, because he greatly feared, though he was not authorised to say so, that Mr. Raleigh would not consent to return on any other terms, knowing as he and the other members did, that it had been frequent and even usual to re-admit retired members without subjecting them to the form of ballot. This proceeding indeed he had always considered an irregular one, and what was worse, it had been abused he feared for party purposes. The gentleman sitting besides him, Mr. Chapman, had been re-admitted by ballot, though exempted from payment of entrance fee. To avoid all future disputes and to obviate the present difficulty, he would now propose the following declaratory act, viz. "that the standing rule of the Society with regard to the admission of ordinary members shall

in no case be departed from. If this implied any reproach on the Society for past irregularities, he thought they should bear it. No gentleman, he however trusted, would hereafter object to ballot or any other form which was thus declared to admit of no deviation.

Dr. Stewart's resolution was seconded by Dr. Goodeve and carried unanimously.

Dr. Goodeve also desired to submit for the votes of the meeting that Mr. Raleigh be admitted without *ballot.*

Dr. Goodeve also read the resolution from the records dated 4th April, 1829, authorizing members to return without going through the form of ballot.

Mr. Langstaff stated that the circular had been submitted for the opinion of resident members without his sanction or opinion having been taken upon it.

Mr. Hutchinson begged that Mr. Raleigh might be ballotted for in the regular way. He was a great advocate for adhering rigidly to the rules and forms of the Society : there was not a question but Mr. Raleigh would be unanimously elected, and it was better that he should come in by the door of the Society than scramble through the window.

Mr. Corbyn said, he was decidedly of opinion that the meeting had no right to ballot for Mr. Raleigh against that gentleman's wish ; he thought he should be admitted at once, after almost the whole of the resident members had voted him in without ballot and concurred that the rule have a prospective effect. It was desirable to have a gentleman like Mr. Raleigh as a member of the Society: besides the consideration of his great acquirements, holding, as he did, such an important situation at the General Hospital, it was unwise in the Society to put difficulties in the way of Mr. Raleigh's admission.

Mr. Egerton thought lightly of such an opinion as that of the last speaker. The paper with the opinions and votes of resident members, had been circulated in a mysterious and secret manner, and not having had the sanction of the President, it could not be admitted at that meeting as a document of any use, and he would recommend that it should be torn up.

Mr. Corbyn could not help expressing his astonishment at the proposition to tare up a document which was well known to have come from the official organ of that Society, and had been circulated publicly and openly. There was ample proof on the paper itself that it could not have been circulated mysteriously and in secret. When he urged the adoption of the circular, he did not intend to detract from that respect which every member of the Society owed to the president. The opinions of gentlemen not present at the meeting should not be slighted by the destruction of the paper in which their votes were officially recorded, and it would be highly disrespectful to them to disregard their votes in the way proposed. After some desultory conversation Mr. Raleigh was ballotted for and duly elected.

Mr. Hutchinson called the attention of the Secretary, Dr. Goodeve, to his publishing in his report of the proceedings of the Society the verbal observations made by Dr. O'Shaughnessy, relative to the review of his paper on the blood by Messrs. Brett and Bird's discussion which appeared *India Journal of Medical and Physical Science.* It was not customary to publish the discussions which would involve the Society in the controversy.

Dr. Goodeve said he was not aware that by so doing he was irregular ; if he were he was sorry for it; but it appeared to him that what Dr. O'Shaughnessy had said formed as much a part of the proceedings as Mr. Hutchinson's own farewell speech ; and speeches of that nature were always reported in the public prints. With regard to the question of involving the Society in a dispute with these gentlemen, he must differ from Mr. Hutchinson. Dr. O'Shaughnessy himself was responsible for his own observations. The Society had nothing to do with them, and it appeared to him that it mattered little whether Dr. O'Shaughnessy gave in his remarks in writing or chose to express his sentiments on that subject personally.

Mr. Langstaff concurred in opinion with Dr. Goodeve.

Dr. Goodeve now called the attention to two propositions before the Society, one by Mr. Egerton that the monthly abstract of periodicals accompanied by an abstract of the proceedings should be renewed, and the other by Dr. O'Shaughnessy that the committee of management be directed to enquire into and report on the expediency of publishing a monthly journal. Dr. Goodeve suggested that the consideration of the propositions be still left with the managing committee, in order that it might be ascertained how far the funds would admit of such a publication.

Mr. Hutchinson expressed his surprise that the committee of management had not already settled that question, as it was left to their decision last meeting. He begged to correct an error with regard to the propositions : he had never understood that there was any proposition before the Society to the effect that a journal was to be published, but simply extracts from periodicals.

Dr. Stewart said that he believed Mr. Hutchinson had proposed that the discussions should be reported with these abstracts. Mr. Hutchinson replied in the affirmative. Mr. Egerton under this view of the proposi-

tions, considered his and Dr. O'Shaughnessy's, as the same, and thought that there existed no occasion for both. He therefore begged to withdraw his. Dr. O'Shaughnessy's proposition was therefore to be submitted for the opinion of the managing committee, as to whether the state of the funds would admit of such a publication.

Letters from the following gentlemen were then read.

From E. T. Harpur, Esq., Surgeon 55th Regt. N. I.; A. Macqueen, Esq., Surgeon H. M.'s 3d Buffs, and J. Anderson, Esq., Bombay, requesting that their names might be withdrawn from the Society.

From W. Bell, Esq., enclosing a specimen of Friable Calculus successfully extracted by him.

From Messrs. Beckwith and Co. of Bombay, forwarding the Society's account Current, and a hoondie for 248-13 8, being the balance of last year's account.

From Thomas Oxley, Esq, forwarding preparations for the Society's Museum with a description of the same, viz.

No. 1.—A portion of the base of the left ventricle and a couple of inches of the aorta slit open, shewing an aneurism of one of the pouches of morgagni.

No. 2.—Specimens of worms found in the heart, pulmonary artery, and aorta of a dog.

The subject of the first case was a convict who was said to have received a kick in the scrotum from one of his companions upon which he immediately expired. On dissection, the pericardium was found to be filled with coagulated blood produced by rupture of the aneurism above mentioned.

The worms were found in a terrier bitch, about 3 years old, which had beena iling for some time before her death, exhibiting great restlessness and dejection of spirits. The heart was hypertrofied, and the worms which were forwarded, were discovered in considerable quantity in the heart, twined around the columnœ carneœ and the great vessels, some even in the minute branches of the pulmonary artery. They were small string like bodies possession but little vitality.

A specimen of calculus found in the intestines of a horse, was presented for the museum, by J. Hutchinson, Esq., on behalf of Dr. Wise of Hoogly.

The following communications were then presented.

A paper on purulent discharges from the bladder and rectum in hepatic diseases, by J. Monat, Esq., Surgeon H. M.'s 13th Dragoons.

Sketch of an undescribed species of venomous serpent belonging to the genus noja, by Dr. Cantor.

Cases of sickness prevailing among the sepoys at Agra, with reports of the medical officers attached to the various detachments affected, presented by the Medical Board.

CORRESPONDENCE.

MR. RALEIGH AND THE MEDICAL AND PHYSICAL SOCIETY.

We readily give insertion to the following letter from Mr. Raleigh. It shews how erroneous are the views of some of the members of this excellent institution. Trifles are obtruded on important questions, to the exclusion of some of the most talented and accomplished practitioners at the Presidency.

How is it possible for the Society to prosper under such direction. It is deeply to be lamented that Dr. Stewart's excellent advice was not taken; which was, as will be seen in the report, to sink party differences and to conciliate.

To the Editor of the India Journal of Medical and Physical Science.

Dear Sir,—As you inform me that it is your intention to publish in the next number of the journal, the discussion which took place at the Medical Society, relative to my re-admission. I will thank you to preface your report by the following statement of the grounds on which I made application to rejoin the Society, *without ballot*, in order that persons unacquainted with particulars, may not be led into the erroneous impression, that I sought a deviation from prevailing custom.

The Society's regulations specify, that proposed members shall be balloted for; and that no alteration of the rules shall be made at periods intermediate to that fixed for annual revision of the laws. Notwithstanding these explicit directions, it was decided at a meeting of a few members held on the 4th of April 1828, (I believe) that "individuals who had retired, or may retire on the plea of reduced allowances, should be allowed to return to the Society, on signifying their desire to do so, without being again subjected to a ballot," this arrangement was not *printed* in the regulations of 1833, and in consequence, the original rule, or the amendment, has been acted on, in cases of application for re-admission, as suited the caprice of the prevailing party at the meeting.

It will not have escaped your recollection, Mr. Editor, that one of the most distinguished members the Society could ever boast of, who had seceded from it, on the *very excuse* for which the qualification of the rule provided, was refused re-admittance on the same terms as others, with no other object than that of preventing his election as Secretary of the Society, which office he had been memorialized to accept, by a large body of the resident members. It was in consequence of this extraordinary circumstance that I quitted the Society. Since the period alluded to, I have understood, that other persons who had voluntarily left the Society have been allowed to rejoin it without ballot; and it was on the

ground of precedent, and objection to distinction being observed in the mode of electing members of a *public* Society, th at induced me to claim the privilege which had been conceded to others, when at the request of several members, I determined to return to the Society. My claim being disputed at the preceding meeting, the question was circulated by the Secretary of the Society for the opinion and votes of all the office bearers and other members at the presidency; having obtained which, it was declared at the last meeting, that the decision was in favour of my being elected *without ballot*, by a large majority, namely 16 against 5.

The few gentlemen opposed to such decision, *now* pronounced the circular "*illegal*," although they had *all* previously acknowledged its "*legality*" one would suppose, by attaching their remarks and votes to it, without protesting against it; and in defiance of the general determination of the members, I was subjected to ballot, and "duly elected." The propriety of which ballot, with acknowledgments to those who did me the honor to vote for me, I dispute, and have declined to avail myself of claiming my election on the decision of the body of resident members, *without a ballot*.

Your obedient servant,

Feb. 15, 1836. W. RALEIGH.

The following is my answer to the Secretary's announcement of my having been elected by ballot.

SIR,—I beg to acknowledge the receipt of your letter announcing my having been re-admitted as a member of the Society *by ballot*, consistently with my former intimation to you, that I was willing to rejoin the Medical Society provided that the same privilege would be extended to me, which had been yielded to other members rejoining, viz., election *without ballot*, I must beg to decline becoming a member until my claim to return on the above conditions has been fairly and fully investigated.

In the present state of the question it is unnecessary for me to advert to the grounds upon which my first application for re-admission was made. This course I conceive is obviated, as the votes of all the resident members have since been canvassed, and my election confirmed by a considerable majority, 16 against 5.

It is not for me to enquire whether the circulation of the written canvass by you as Secretary, was or was not in accordance with rule. But it is rational I should consider it to have been legally admitted, when to it was attached the minutes and signatures of all the office bearers and resident members of the Society, beginning with the President; and no protest having been entered against such mode of proceeding. In consideration of this, rather than rest contented with the decision of the members assembled at the last meeting, I beg to repeat my claim of re-admission without ballot, and request you will have the goodness to read this letter at the next sitting, that the subject may be reagitated, and a final decision made thereon.—

I have the honor to be, &c. W. RALEIGH.

To the Editor of the India Journal of Medical and Physical Science.

DEAR MR. EDITOR,—In the *India Journal of Medical and Physical Science* for the present month, (February) you profess to lay before your readers a plain statement of facts, in regard to the institution, if I understand you rightly, of a Medical Periodical at this Presidency. You state, that impressed with the conviction that a monthly Journal of medical literature was a great desideratum in this country, on your becoming a resident member of the Society, you announced your intention of publishing such a periodical, and solicited permission to introduce a reporter to take down the discussions at the meetings; instead, however, of being received with readiness as you had anticipated, you were astonished to find that your proposition was rejected by a large majority. But let me use your own words, "In conjunction with our talented friend and predecessor, Mr. Grant, we however pursued our plan, and had actually put to press a sheet of our intended Journal, when to our surprise a proposition was brought forward by one of the members of the Society to publish a quarterly periodical." Now, Mr. Editor, it appears to me that there is a great deal of error in all this.

On the 31st of May, 1832, I addressed a letter to the late Mr. Twining, then Secretary to the Medical and Physical Society, on the propriety of the Society's issuing a medical periodical; that letter I received yesterday from the Society's Librarian, and now beg you will do me the favor to publish it in conjuction with the present one. A reference to the proceedings of the Society for the months of June and July of 1832, will satisfy you that the proposal was taken into consideration by the Society and negatived. The above is a statement of facts, and cannot I believe be denied or controverted; if it be true, however, that any steps of the nature you state were taken by you PREVIOUS to the date of my letter, and you will produce any prospectus of your intended journal, or a copy of the sheet of it which you state you had actually put to press, or if you will refer to any request made by you to the Medical and Physical Society to be allowed to introduce a reporter at their meetings of a previous date, I shall at once and without farther dispute yield to you the claim of priority in the proposal. What I have stated must be fresh in the recollection of almost every resident member of the Society, and where this is not the case, the proceedings of the Society are in existence, and can be referred to. You may perhaps yourself recollect, that Dr. Wilson could not be present at the meeting, having proceeded to Monghyr, and that he left a paper behind him expressive of his sentiments on the subject, which was duly read to the Society. These sentiments were unfavorable, and the proposal was, (I was going to say in consequence) negatived. When you state that notwithstanding this, the Society shortly after commenced the publication of their selections, you are more accurate, I grant.

I remain, dear Mr. Editor,

Very faithfully your's,

Feb. 14, 1836. JAS. HUTCHINSON.

To W. Twining, Esq. *Secretary Medical and Physical Society.*

Sir,—I am desirous of calling the attention of the members of the Medical Society on the present occasion to the advantages which might be expected to result from the establishment of a medical journal, in connection with the other objects of that institution.

The allowances of our service, particularly of the junior branches have, along with those of others suffered from reduction, and this coupled with the high price of books in this country, and the heavy expense incurred in their transmission from the Presidency, must undoubtedly operate to prevent the medical officer in the Mofussil, whatever may be his zeal, from keeping pace so closely as he could wish with the march of professional improvement in his own country. Did these obstacles not exist, it could scarcely be denied that the quantities of inferior matter which most, if not all of these journals contain, is both a heavy tax on the purse of the purchaser and on the time of the reader.

Were the Society to publish a quarterly journal of Medical Science, these disadvantages might be avoided, the work would be transmitted free of expense, and might be made to consist of a selection from the best medical periodical publications in the world. An appendix might be added to contain any papers of minor importance, or ephemeral interest, which might in the interval have been laid before the Society; a precis of the latest medical intelligence; and an account of the proceedings of the various scientific bodies at the presidency.

The Society are said to be wealthy,—if that is true, a great portion of their riches must have been derived from Mofussil subscribers, who at present reap no adequate advantage from the institution;—it possesses the privilege of forwarding its proceedings free of postage, it receives the whole of the medical periodical publications of interest, whether of Europe or America; and lastly, among its office bearers it possesses a committee of papers, who in their editorial capacity would only have to select for publication from the ample stores which would thus be at their command.

The work might be supplied to the members of the Society at prime cost, or even gratuitously, while a small profit might be realized by disposing of extra copies at a higher price to non-subscribers, at this and the other presidencies. The journal might thus not only prove a source of revenue to the Society, but become the means of extending the list of its subscribers and of the contributors to the advancement of medical science.

There is but one possible objection which I can contemplate to the design, and to me it does not appear an insuperable one. It is the consideration how far it would be justifiable to transfer the productions of others to our pages, without leave asked and obtained, —on this point the Society must judge for itself. We borrow from the French, and from the Americans, and they from us, and I confess, I cannot see why we might not with propriety act on the same principle.

I have the honor to be, Sir,
Your most obedient servant,
May 31, 1832. Jas. Hutchinson.

My Dear Sir,—I have the pleasure to send for your perusal a copy of a letter which I have sent to Mr. Twining, and which I believe will be read to-night at the Society. I feel confident that the publication therein proposed would not only be highly acceptable but eminently useful to Mofussil members of the Society, and I trust it will meet with your approbation and support.

Sincerely your's,
June 2, 1832. Jas. Hutchinson.
To H. H. Wilson, Esq.

It appears that the object of Mr. Hutchinson's communication is to claim the merit of being the first to propose the publication of a Quarterly Medical Journal at the Society's expense—an honor he is justly entitled to. But the inexpediency of such a publication has been already fully shewn by Mr. Wilson's able minute on that subject. It is to be lamented that Mr. H. did not add that it had ceased to be a desideratum, in consequence of our having previously announced the publication of such a periodical.

In 1827 Lord Amherst offered to us a situation in Calcutta, shortly after which we printed at the Baptist Mission Press* the pros-

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To F. Corbyn, Esq.

* My Dear Sir,—With reference to the Calcutta Quarterly Review of Foreign Medical Science, which you projected several years ago, I regret to state, that I cannot now find a copy of the prospectus, but on reference to our books find that it was printed in the month of January, 1828.

Your most sincerely,
Feb 16, 1836. W. H. Pearce.

Now on our arrival as a resident in Calcutta we talked of our intended publication to several friends besides announcing it to the Society.

To F. Corbyn, Esq.

Dear Sir,—We shall be able to print 300 copies of the proposed Medical Journal at the following rates per form of 8 pages demy.

In *Small Pica* or *Long Primer leaded*, including Paper,..... Sa. ~~Rs~~ 18
In *Small Pica* or *Long Primer solid* ditto ditto,..... Sa. ~~Rs~~ 21
In *Bourgeois solid*, double column as per *Muster Page* sent,..... Sa. ~~Rs~~ 25

So that should each No. make 32 pages the charge for 300 copies would be 100 ~~Rs~~. The making up in colored paper wrappers would be a trifle in addition.

I am, Dear Sir,
Your's truly,
(Signed) G. H. Huttmann.
Orph. Press, }
Aug. 3*d* 1832. } (True copy) G. H. Huttmann.

To F. Corbyn, Esq.

My Dear Sir,—I ought to have mentioned in my note this morning, sending copy of our estimate for your projected Medical Journal in August, of 1832, that muster page or pages accompanied the same, and one in the style of the London *Lancet*.

Yours very truly,
Orphan Press, }
Feb. 15, 1836. } G. H. Huttmann.

pectus of a Journal of Medical Science, and determined that this should be our first public act on coming to Calcutta. We were not however actually appointed to the Presidency until the latter end of 1831, when we were engaged in printing our work on *Cholera*. So soon as this was published, we entered into arrangements with Mr. Grant to which we have before alluded. It was after this, that Mr. Hutchinson's correspondence was going on with Mr. Twining and Mr. Wilson. We have stated the fact of its advent before the Society and of its rejection. We have no copies of our correspondence with Mr. Huttman of the Courier. He informed us that he only entered one letter in the books of the office which was that of the 3d of August, settling the terms of our periodical, but the Journal of selections had then appeared, and as we said before deterred us from carrying on the publication. This Journal of selections by Mr. Twining was in decided opposition to the votes and rules of the Society. The Journal of selections now proposed and alluded to by Mr. Hutchinson is to be got up on the same grounds, and is inexpedient in as much as it is not a desideratum. With few exceptions our Journal is supplied to all the members of the Medical and Physical Society, and the same extracts that we give must also be published by the Society, which will thus lay before the members instead of different, the same or nearly the same matter.

On the other hand some members will not support both; the consequence of which will be that the Society and ourselves must suffer loss. We shall be thwarted in our object to diffuse medical science to the extent required, and the Society will cease to maintain the dignified character of its institution, and become a mere vender of trifles.

MISCELLANEOUS.

THE REASON FOR SENDING THE NUMBER OF THE JOURNAL IN TWO PIECES.

Such is the extraordinary character of the Post Office regulations that a pamphlet weighing from 8 to 10 sicca weights is charged, for 2½ anna stations, at 7 annas; whereas if it be divided into two pamphlets, each weighing under six sicca weights, they are charged only two and a half annas each, which is but 5 annas for the two. This will account to our subscribers in the mofussil why we dispatch our present number in two pieces: it is to save them two annas.

SCIENCE AND THE ARTS.

When on the one hand we take into consideration the vast extent of this empire, and the strides which education is making among all classes of the people; and on the other that no work has yet been offered to the public calculated to diffuse the light which discoveries and improvements in Europe are hourly shedding through the medium of science and the arts, we suppose that it will not be necessary to waste time, in demonstrating their importance or in proving the utility of enlarging the new scientific Department of our Journal, in the manner we propose. By shewing the extensive influence which the dissemination of science and the arts must necessarily have in promoting the welfare of this Country, and by laying open those resources of knowledge which at all times have formed the basis of national power and prosperity, we trust we shall soon be enabled to awaken a general spirit of research.

The difficulty of carrying on what we are contemplating to attempt, whilst engaged in our numerous professional occupations, which have the first claim upon our attention, has been brought to our notice by some to whose opinions we pay great deference. But this difficulty we hope to be enabled to remove by giving employment to a scientific gentleman who will devote himself to our views, as our principal collaborateur and translator.

One material consideration is that we shall not interfere with any other existing publication. Prinsep's, the single one which our proposed journal approaches in character, consists entirely of original matter, and leaves open to us the whole field of foreign science and general statistics.

This department of our Journal will consist of about 30 pages, in minion type, the additional price for which will be 8 Rs. per annum payable in advance. We hope to commence next month, and shall forward the entire additional work to all our subscribers unless prohibited from doing so. To those disinclined to patronize our projected labor the original Journal will be sent as heretofore. There will be no increase of charge on account of postage, since we shall divide the Journal into two numbers as we do this month, each being under the

prescribed six sicca weight. For the advantage of our Mofussil subscribers above Dinapore and as far up as Allahabad, we shall dispatch them free of expense by the steamer.

In the submission of this new department of our labours, our professional brethren will discover a proof of the high sense we entertain of their love of science and their readiness to support attempts that have for their object the diffusion of knowledge, the improvement of the intellect, and the happiness of mankind.

MEDICAL COLLEGE.

There can be no question that the Medical College recently instituted in this city by the Government, conducted on an enlarged plan commensurate with its importance, will become in an eminent degree the source of that intellectual light, which will not only illuminate, as it is now doing, the subordinate, but eventually the middle and more elevated classes of the native community. Medicine, by its great attractions, leads the young mind to the love of a studious life, and is a sure means of its improvement in higher and more useful branches of science. It possesses the alluring charms of practical chemistry, natural philosophy, anatomy, geology, botany, &c. &c., which in the usual course of studies, in a regularly constituted college, it presents to the curious enquirer after the admirable works of nature. This, it is likely, will have a powerful effect on the minds and manners of a whole people, and we conceive that it would be a very desirable policy in the Government to extend the establishment of such institutions to Madras, Bombay and central or north-western India. At the same time we would urge the necessity of making the salaries of professors such as to give them that respectability and rank which have so much weight with students, and, what is more important, imparts to the professors themselves a spirit of cheerfulness and emulation in the performance of their responsible and important duties. In a future number it is our intention to give a complete sketch of the Medical College established in Calcutta, and to point out what we deem its desiderata. For the present we must content ourselves with adverting to a public examination of the students on the 13th instant. Although we think the present examination really necessary to keep alive the public interest in this institution, yet on the whole we must confess that we are no advocates for these exhibitions so early after the foundation of the College. The boys, it is true, are capable of giving prompt replies to the interrogatories of their Professors on the subjects of recently delivered lectures, but these are not the result of mature reflection grounded on experience and knowledge of the subject. They are too often erroneously supposed to be so, and the students themselves, when they find they are applauded and exalted in the opinions of a public audience, become contented with superficial acquirements.

The examination was opened by Dr. O'Shaughnessy, who put various questions on elementary chemistry to the pupils. He examined them first on the essential properties of matter, required his pupils to afford instances of the different kinds of attractions, and made them explain what was meant by chemical attraction. He then ascertained their knowledge of simple substances, questioning them as to the means of obtaining oxygen its chief properties, its power of supporting inflammation and combustion, the number of oxides which might be formed with different substances, meaning of the words peroxide, sesquioxide, &c. He requested they would state the effect of oxygen, upon the germination of plant, and in animal and vegetable respiration. He next inquired the mode of procuring hydrogen gas and its properties, followed by questions upon carbon. What connection subsisted between diamond and carbon, the combinations of carbon with oxygen, production of carbonic oxide and carbonic acid, the musical sound produced by burning hydrogen in a glass tube, and the inflammation of spongy platinum by a stream of that gas.

Dr. Goodeve then came forward and examined the pupils on the spheroid bone, its processes, connections and lodgments, and foramina with the vessel and nerves passing through them. He then proceeded to the branches of the fifth pair of nerves, their course and distribution. The portio dura of the seventh pair. Corda tympanim, its connection with the gustatory branch of the inferior maxillary. The internal maxillary artery and its branches. He then desired to be informed of what they knew of the rotatary muscles of the thigh; their origin, insertion and action. He next proceeded to the mechanism of the vertebræ. What distinguished the atlas from the other cervical vertebræ. The nature of the motion performed between the scull and the cervical vertebræ. The relative position of the atlas and Dentata with regard to their movements, the muscles by which they are performed. Dr. Stewart then asked to what bone the pheregoid plates belonged. How many plates there were? what purpose did the homular process serve? what were the arteries arising from the arch of the aorta? the course and relative positions of the

sub-clavian artery? the origin and insertion and use of the scaleni muscles? what limited the flexion and extention of the fore arm? the situation of the coracoid process of the scapula. The origin and insertion of the biceps muscle and the other muscles proceeding from the shoulder to the arm. In how many ways the knee pan was fractured and the causes which give rise to the accident? Dr. Stewart then presented two patellæ, and enquired how the right could be distinguished from the left.

Principal Bramley then proceeded to examine them on the Pelvis and required to be informed whether the one under examination was a male or female pelvis, and what was the distinction beween the two. He then required a description of the acetabulum and made one of the pupils demonstrate the nature of a dislocation of the femur upon the dorsum of the ileum the position of the foot and leg in consequence. The distinction between that dislocation of the femur and fracture of the neck of the thigh bone. Dr. Goodeve then examined them on the glutei muscles and upon their action. Principal Bramely then asked how many ways the shoulder might be dislocated and the symptoms of their dislocation. Some questions followed upon the bones of the wrist which concluded the examination. To all the above questions most satisfactory replies were given and to many others of minor importance.

Want of space prevents our saying more than that the answers were highly creditable to the pupils, and shewed beyond dispute that during the short period the institution has existed, the professors have evinced a degree of zeal and tact which, is highly honorable to them. We are authorized to announce that an opportunity now offers for youths at the several seminaries to acquire a knowledge of practical chemistry and natural philosophy. Application for admission must be made to Principal Bramley; which should be done without delay.

MISS CUMMING AND THE ORPHAN SCHOOL.

The importance of the following correspondence to every parent in the Medical Service will plead our excuse for bringing it prominently before them.

To Capt. Cartwright,

Secretary Presidency Division Orphan Committee, Dum-Dum.

Sir,—Having had the honor to forward to you on the 14th January an application to the General Management of the Military Orphan Society, signed by several gentlemen of the Medical Service,* subscribers of the Military Orphan Society, on all documents regarding Miss Cumming's dismissal from the Upper Orphan School, and not being favored with a reply, I addressed you again on the 15th instant, and received yours in reply thereto on the 16th.† This determination on the part of the general management to decline even so much as an answer to our application compels me as a matter of necessity to submit the whole correspondence to the army. with the accompanying statement of Miss Cumming's case for which I applied to that lady on failing to receive it from the general management. This case is sufficient, in my opinion, to awaken in the bosom of every subscriber to the fund a sense of that duty he owes to the orphans of his diseased comrades, to institute an investigation into the cause of Miss Cumming's dismissal, but there are other circumstances which call loudly for enquiry, such as a want of care of the funds by which they have to a large amount been lost to the institution. These facts I felt it my duty to submit for the consideration of the division of the army I had the honor to represent, but beyond a private note of the Secretary's that there was but one opinion among the subscribers at Dacca, that I had the welfare and interest of the Society at heart, no farther notice has been taken of such important subjects, and when I called upon the general management to accompany my statements with one from themselves, they thought that request so unworthy of notice as to deem a compliance with it unjustifiable labour. The time has now arrived therefore that I should come forward with a proposition to the army and accordingly I do propose, that a Committee of Officers, with the sanction of his Excellency the Commander-in-Chief be convened at such time and place as the committee may think fit, to investigate—

First, into the present state of the institution.

Secondly, into the cause of Miss Cumming's dismissal from the School

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* Mr. Grant, Dr. Jackson, Mr. Mercer, Marine Surgeon, Mr. Pearson, Deputy Apothecary General, Mr. Chapman, Assistant Surgeon Governor General's Body Guard.

† No 87.

Secretary's Office, Presidency Division Orphan Committee, Dum-Dum 16th Feb. 1836

Sir,—In reply to your letter of the 15th inst., I beg leave to say that I forwarded the application alluded to therein to the Secretary General Management on the 14th January last, but to which I have not yet received any reply. I shall again write on the subject to-day.

I have the honor to be, Sir,
Your most obedient servant,
John Cartwright,
Secy. Presy. Divn. Orp. Com.

To Dr. F Corbyn,
&c. &c. &c.
Fort William.

Thirdly, into the charge preferred by Frederick Corbyn, Garrison Surgeon, Fort William, on a want of economy and attention to the security of the funds in the following instances :

1st. In voting the Salary of 1000 Rupees per mensem to Mr, Macqueen.

2ndly. In instituting the appointment of Mrs. Wyatt immediately after reducing the marriage portions of the wards and raising the amount of subscriptions of some portion of the subscribers.

3rdly. In the loss of the patrimonies of several wards.

4thly. On the mismanagement of the Gunge and Press concerns, by which the funds have suffered.

Fourthly that the votes of the army upon all these propositions shall be sent by the different district Committees to the secretary to the Presidency Committee who shall, if they are carried, request the permission of his excellency the Commander-in-Chief to convene at an early day a meeting for the purpose of electing the Committee of investigation aforesaid, and to consider to what extent the members of the management are legally responsible to make good such losses which have arisen out of their negligence. Also how far the General Management were justified in refusing an investigation into the case (when brought forward by the member for Dacca) of Nealmudab Day a respectable native who was supposed to have been hardly treated and himself and family brought to poverty and misery by a very unjust dismissal from his appointment. Fifthly that the same Committee shall revise the code of regulations and submit them, when revised for the approval of the army and the confirmation of the Local Government and the Honorable the Court of Directors. Sixthly out of delicacy to the subscribers residing at the Presidency, who have been more or less connected with the general management, that the committee shall consist of twenty officers now stationed at Dum-Dum and Barrackpore, to be elected by ballot, by the subscribers at public meetings at those stations viz. 14 at Barrackpore and 6 at Dum-Dum : five shall form a quoram. Seventhly that the report of the committee shall be printed at the Orphan Press, and as the expense after printing 100 copies is a trifle beyond that of paper, that every subscriber to the fund shall be furnished with a copy. Eighthly, that this committee be empowered to examine all records of the institution, and to take any other steps they may deem necessary for the due investigation into all the charges that have been brought forward against the present state of the institution.

I have the honor to be, Sir,
Your obdt. servant,
FREDERICK CORBYN.

STATEMENT OF MISS CUMMING'S CASE.

It will be necessary to advert to the appointment of Mr. and Mrs. Hovenden as Superintendents of the Upper and Lower Orphan Schools on a salary of 700 rupees per mensem, and that an increase of 300 rupees were voted on account of Mrs. Hovenden's services, making their salaries 1,000 per mensem.

2d. Now 700 rupees per mensem had been considered ample as a salary for a married clergyman appointed in England, a bachelor appointed in this country should have had less, the more especially as part of that salary was for a lady superintendent, and the appointment of a bachelor would probably be followed by such an appointment Mr. Macqueen, a bachelor, was however appointed and received the full allowance of 1000. I protested against that appointment. 1st, on account of his being a bachelor, 2dly, on account of the salary, 3dly on, account of his age and inexperience, and that Miss Cumming and Miss Sturroch who had rendered great service to the school, might in consequence be deprived of their appointments, which would ultimately be the case if a lady superintendent was appointed, for I believed it was probable she would be introduced as a Head Mistress. In reply to this protest I was told by my colleagues that a lady superintendent would not be required, and that the ladies I alluded to would not be superceded. Mr. Tytler went so far as to say that, " It does not appear to me, that any vacancy exists in the female department, and consequently it is quite needless to agitate the question of a lady superintendent. When Mrs. Hovenden retired sometime ago, Miss Sturrock and Miss Cumming were elected to succeed her, and continued to discharge their duties satisfactorily ever since, receiving I believe one half of Mrs. H.'s salary, unless therefore we choose to turn them out (which would be the highest injustice) there is no reason to put any one else in."

Now this was written in October. But as I predicted so it has turned out. Capt. Ousely in February following came forward with a proposition to appoint a Head Mistress, against which I protested and pledged myself to see justice done to Miss Sturrock and Miss Cumming. To be brief, the lady superintendent was appointed under the name of head mistress, putting the institution to the additional expence of 3000 rupees per annum. Misses Sturrock and Cumming were superceded, and the latter eventually dismissed. The justice of that dismissal will be decided by the committee of inquiry now called for.

But there are other circumstances which call for this investigation. The power of

expelling any ward from the school is in its very nature too great, and too liable to abuse, to be placed in the hands of a body so small as the general management. The measure is one, the legality of which cannot be admitted as trenching upon the vested rights of the whole army ; to whose vote it may also, in some cases, be opposed ; for, as questions out of the ordinary routine of admission to the benefits of the fund, can not be decided but by the vote of the whole army, so the severe punishment of expulsion from one of the greatest of those benefits, being also out of the ordinary routine, can not be inflicted by the inferior authority of the general management alone. If it could, award admitted by a vote of the whole army to the benefits of the fund might be deprived of that greatest to a girl, a respectable home, by a mere vote of the management, founded upon a report of a Secretary, or Head Master, or Mistress whom she may have been so unfortunate as to offend.

3. As a measure calculated to be of the greatest injury to the subscribers to the fund, it need but be pointed out, that the chief benefit for which a subscriber has paid for many years, can, thus be taken away from him ; his orphan daughter may be deprived of that respectable home he vainly thought his subscriptions had secured for her : and she may be driven forth upon the usual pittance of thirty-five (Sa Rs. 35,) rupees a month, with all the disgrace of expulsion upon her name, to find a home, a respectable home if she can ; but if not, to resort perhaps to ways of infamy for her support.

4. It is impossible for a Father, to look on with indifference, at this destruction to the living—at this breach of faith with the dead.

The following is the correspondence.

TO MISS CUMMING.

My Dear Madam—As I am about to ask for an investigation into the cause of your dismissal from the Kidderpore School, I shall feel obliged if you will furnish me with copies of correspondence which occurred on that occasion between the general management and yourself, and by your informing me whether any opportunity was afforded you of confronting your accusers and defending yourself at a personal examination.

Believe me, my Dear Madam,
Very faithfully yours,
F. Corbyn.

Fort William, Feb. 22, 1836.

My Dear Sir,—In reply to your communication of the 22d instant, I herewith forward to you, copies of my correspondence with the general management, and in reference to the concluding paragraph in your letter, I beg to state, that I had no opportunity given me, to confront my accusers.

I am, My Dear, Sir,
Yours faithfully,
Feb. 25. 1836. Cath. Cumming.

COPY OF CORRESPONDENCE BETWEEN THE DEPUTY GOVERNOR AND SECRETARY OF THE UPPER ORPHAN INSTITUTION AND MISS CUMMING.

TO CAPTAIN G. YOUNG.

My dear Sir,—I am about sending in my name, as candidate for the situation of Head Mistress to the Martiniere. As a public functionary I have acted under your observation for the last 6 years, and as a ward I am known to you for a longer period, a word from you will give weight to my application. If you think me eligible to the situation, will it be asking too much, if I beg the the favour of a few lines to go with my official.

Believe me your's very truly.

(Signed) Cath. Cumming.

Kidderpore House Sept. 19*th* 1835.

To Miss Cumming.

My Dear Madam,—The best testimonials you can produce are from those who have been near and even daily observers of your conduct as a teacher and superintendent of such an institution. You can refer to the very favourable opinion of Mr. and Mrs. Hovenden and of the General Management in their time ; but unfortunately since Mr. Macqueen and Mrs. Wyatt came to Kidderpore I have heard complaints of you, and particularly at this moment, I expect that they will come under the consideration of the General Management who will not judge without giving you an opportunity of explanation. Under these circumstances I am sorry that I cannot comply with your request.

Your's very truly,
(Signed) G. Young.
September 19, 1835.

To Miss Cumming.

Madam,—I had lately occasion to inform you that ever since Mr. Macqueen came to kidderpore I had heard complaints of your insubordinate and disrespectful conduct, and that I expected he would submit a representation on the subject to the consideration of the General Management, who could not decide without hearing your defence. I take this method of communicating to you the substance of the secretary's statement, and of affording you the

opportunity of explanation to which I referred.

The first prominent manifestation of a spirit and temper habitually insubordinate and disrespectful occurred on the occasion of the introduction of some improvements in the system of education, and in the distribution of the School hours. (In April 1833). Your resistance of these improvements retarded their introduction for some time, and it was not until the secretary was pressed by me to do so that he submitted his plan to the General Management by whom it was unanimously approved. You then for some time displayed your dissatisfaction by particular marks of disrespect and aversion, and told the secretary that you ridiculed the idea of his thinking to improve the system of Mr. and Mrs. Hovenden, thus daily setting an evil example before the wards of the Institution.

Immediately after the arrival of Mrs. Wyatt (October 1834) you endeavoured to prejudice her against the secretary by representing his conduct as arbitrary and tyrannical in the case of Miss Higgott (now Mrs. McLeod) who was deprived of her offices for inflicting a violent blow with a stick on the head of one of her pupils. This punishment was sanctioned by me: but you seem to have thought that an act of dangerous cruelty should go unpunished.

The next instance of your insubordination was in your resistance of a desire expressed by Mrs. Wyatt, (February 1835) that you should take your meals at the senior Division table, instead of doing so in a small room with a few of the youngest children. An order to this effect was at last issued and submitted to with much repugnance, though the obvious propriety of it should have induced immediate and cheerful acquiescence.

When a lady, so highly qualified for the situation as Mrs. Wyat, was placed at the head of the Institution, it might have been expected that you, notwithstanding the diminution of your authority, would have participated in the general feeling of satisfaction, and would have afforded her your cordial co-operation. But instead of assistance and harmony, Mrs. Wyatt has found opposition and discontent. You have even set an example of groundless complaints of deficiency of food.

More than two years ago the late Captain Dalby was so well acquainted with your untoward disposition that he was only restrained by the request of the secretary from originating an enquiry into the subject. In a person of your rank and influence in the Institution it is so mischievous that it appears desirable for the maintenance of authority, and for the general peace and comfort, that you should remove to some other residence. If you cannot acquiesce in such an arrangement on such grounds, you may yet find relief in being separated from various causes of discontent and annoyance.

I remain,
Your most obedient servant,
To Miss Cumming, (Signed) G. Young.

October, 10, 1835.

Sir,—In reply to the communication you did me the honour to address to me, I beg to express my sincere regret, that any part of my conduct towards Mr. MacQueen and Mrs. Wyatt, should be considered as ' insubordinate and disrespectful" I solemnly say nothing was further from my intention. On the occasion of introducing some changes regarding the school hours &c. you personally called upon us to state our opinions ; besides an official from the secretary (see No. 445) on the same subject, if I remember aright I think I told you the breakfast hour was fixed rather late for such children as we had in our family, and to Mr. Macqueen I stated that there was no portion of time allowed for repairing clothes &c. and pointed out a vacant hour he concurred and from that day to this I have, most strictly in every instance, adhered to all the changes introduced. I made this proposal with a view to further the respectability of the Institution, and to guard against the possibility of this duty being omitted at the pleasure of the Teacher. I knew from experience how backward young persons are to perform this disagreeable, though necessary task. I know how soon clothes fall into tatters if not regularly mended, and how essential personal neatness was to the female character ; and in conversation added Mr. and Mrs. Hovenden dwelt much upon these points, and the latter having been Head Mistress. knew well the internal management of a female school. It is so long since this conversation took place, that I do not remember the exact expressions ; but I believe the above is the substance of what passed on the occasion. This I am sure of, I had no feeling of disrespect towards Mr. Macqueen.

With regard to the punishment awarded to Miss Higgott (now Mrs. McLeod) I expressed my private opinion, in a private conversation with Mrs Wyatt, as of an event of recent occurrence, without the most remote thought or intention to prejudice her against Mr. Macqueen that it appeared harsh to deprive her altogether of both appointments—as organist she aided the prayers of the congregation ; but in justice to the children she should be removed from the teachership. The father of the child also hoped the deprivation was not to be permanent when Mrs. Wyatt mentioned the subject to him.

I further beg to state, I did not resist authority when required to join the senior

table. I merely entreated; and remonstrated. I naturally shrunk from an arrangement which would place me in a difficult and unpleasant situation, and when my appeal was vain, I complied, and have ever since taken my meals at the senior table, and remain with the young ladies, till they retire to rest without a single deviation.

I am and have been, most ready and willing to co-operate with Mrs. Wyatt on all occasions, and have more than once assured her of this. I rejoiced in her appointment, and was prepared to receive her as a friend, there were complaints of deficiency of food, at the senior table, before I was placed there. The first conversation I had with Mrs. Wyatt on the subject, I suggested, that if she took her superintendent with her, when she gave orders for dinner this would not occur, and she has acted on this suggestion ever since. On this and other occasions when Mrs. Wyatt has asked my advice or opinion, I have given it faithfully and honestly, as I would have were I similarly situated, how to remedy an evil without making a breach.

It has been my aim and endeavour as a ward to set a good example to all around me, and have felt this principle doubly binding since I have held my present responsible situation; to be respectful to those in authority above me, and kind and conciliatory to those below me.

If you, and the General Management do not think this a sufficient explanation, I am willing to offer any other, you may deem necessary.

I remain, Your most obedient servant,

(Signed) CATH. CUMMING.

Kidderpore House, Oct. 10, 1835.

No. 445.

To MISS C. CUMMING.

Head Teacher, Kidderpore House.

MY DEAR MISS CUMMING.—I am directed to submit the accompanying prospectus to your consideration, and to request you will have the goodness to point out any additions, alterations, and improvements which you think might be advantageously made in it.

Your's very sincerely,

(Signed) JOHN MCQUEEN.

Copied JAS. KEYS. *Secy. M. O. S*

Kidderpore, April 29, 1833.

No. 1119.

To MISS C. CUMMING.

MADAM,—The General Management thinking it very desirable, for the reasons stated in the Deputy Governor's letter to your address of the 5th instant, that you should be removed from Kidderpore House, direct me to request that you will look out for another residence as soon as possible, and further to inform you they have been pleased to allow you eighty rupees per mensem, in consideration of your standing as a ward and office bearer in the institution until you succeed in obtaining a provision of equivalent amount, or do any thing to forfeit the indulgence, which they trust will never be the case.

Your present apartments will be at your service (if necessary) till the end of next month.

I have the honor to be, Madam,
Your most obedient servant,
(Signed) JOHN MCQUEEN,
Secy. Mil. Orphan School.

Kidderpere.
Oct. 29, 1835.

Saturday evening, 9 *P M. 27th February.*

We had sent the last form of the present number to press when the following was received. Captain Cartwright's second application seems to have had effect: but alas for the General Management—long ago we proclaimed that they had formed themselves into an oligarchy. The reply now received alone demands the investigation we have called for. In company with our letter to the army, we shall print the rules alluded to, though they have no reference whatever to the one we have given, as we shall prove. What will the friends of free enquiry say to this refusal of information called for?

No. 99.

Secy. Office Presy. Div. Orphan Committee
Dum-Dum, 26th February, 1836.

GENTLEMEN,—In reply to your letter of the 13th ultimo requesting to be furnished with copies of all reports, proceedings of of the General Management, Orders and minutes by the Secretary, &c. relative to Miss Catharine Cumming, I have the honor to forward Copy of a Letter No. 189 of the 25th instant from the Secretary to the General Management.

I have the honor to be, Gentlemen,
Your most obedient servant,
JOHN CARTWRIGHT.
Secy. Presy. Div. Orphan Committee.

To Messrs. CORBYN, GRANT,
" PEARSON, CHAPMAN,
" JACKSON, and MERCER.
Surgeons, Fort William.

No. 189.

To Captain John Cartwright,

Secretary Presidency Orphan Committee

Dum-Dum.

I am directed to acknowledge your letter No. 40 dated 14th ultimo, with its enclosure to your address from Messrs. Corbyn, Mercer, Grant, Pearson, Jackson and Chapman, calling under Rule 62 of the Orphan Society's Rules and Regulations, for authenticated copies of all reports, proceedings of the General Management, Orders and Minutes by the Secretary, the General Management, Deputy Governor, Head Master, Head Mistress and all other officers of the institution who may at any time have written any, and in short for all documents whatsoever connected with Miss Cumming from the period of her appointment as Librarian up to that of her dismissal from the School, in order that they may persue such further measures as the nature of the case may seem to demand ;" and in reply to state, for the information of the before-named Gentlemen, that they are not entitled to authenticated copies of the various documents called for and that their construction of Rule 62 is incompatible with the authority conferred by Rules 52, 56, 57, 59, 80, 295, and 296, which has been constantly exercised by the General Management, since the formation of the Society in 1783.

I have, &c.

(Signed) John McQueen.

Kidderpore, } *Secy. M. O. S.*

25th Feb. 1836. }

(True Copy,)

John Cartwright,

Secy. Prsy. Div. Orphan Committee.

GENERAL ORDERS.

Promotion —Feb. 15, Assist Surg. N. Morgan to be Surgeon from 15th October.

Appointments.—Jan. 11. Surg. W. Jackson, Offg. Supt. Surg., Surg. T. Forrest, Med. Dept. Civil Station, Mirzapore. Feb. 12, Assist. Surg. Macklean to charge of 22d N. I., Ishapore, Sur- A. Wood, to accompany L. W. Batt. at Sultanpore, Benares, to Cawnpore. Feb. 27, Assist. Surg. R. J. Brassey Assist. Garison Surg., Allahabad. Asst. Surg. A. C. Gordon Extra Asst. to the Politic. Agent at Umballa. Feb. 6, Surg. J. Johnstone, M. D. Med. aid to detach, H. M. Troops, Henry McMullen to act as Asst. Apoth. and Assist. Stewartd to the dettat. Feb. 3, Assist. Surg. A. Vans Dunlop, to the Civil station Azimghur. Feb. 19, Asst. Surg. Handyside M. D. to Simla. Feb. 15, Asst. Surg. M. Lovell to 3d Local Horse, Asst. Surg., T. Barber to officiate Asst. Garrison Surg. Chunar. Feb. 18, Assist. Surg. J. W. Franks, to 49th Foot. Feb. 10, Assist. Surg. W. A. Green, Civil Station Ghazeepore. Feb. 22, Surg. J. Ranken, M. D. to officiate Sec. Med. Board Assist. Surg. T. C, Hunter to Civil Station Gowalpara Feb. 20, Apoth. J Devoreux and Stewart Francis Fanton to 1st Batt. Artillery Dum-Dum.

Leave of Absence.—Jan. 27 Dr A. Halliday, Presidency Surgeon to Saud Head's for 1 month F. L. Feb. 1. Assist. Surg. J. Hervey, Med. Estab. to Europe, Assist. Surg. W. B. Davies, to Presidency P. A, to the 16th May. Feb 8, Surg. J Hutchinson, to the Cape. Feb 3, Asst. Surg R. J. Bressey, from 1st March to 15th April to Calcutta to apply for leave to visit Penang P. L. Feb. 9, Mr. J. Lamb, Assist. Surg. for 5 days, P. A., Assist Surg. R. Rankin, P. L. to visit Tirhoot, Assist. Surg. H. R Bond to Presidency, S L. Assist. Surg. McKinnon from 1st to 15th March, P. A., J R. Vos, Pol. Surg. to 6th Aug last, M C. Feb 16. Feb 18, Apoth. D MacDonald, to 1st Dec to visit Deyrah, M. C. Feb. 10, Assist. Surg. T. Chapman, M. D. to proceed to sea, M. C., Assist. Surg. T. R. Spencer one month P. A. Assist. Surg. J. F. Bacon, to 1st Feb. M. C. Feb. 20, Assist. Surg. C. Finch, M. D. to visit the hills of Deyrah and eventually to Europe.

Removals.—Feb. 12, Surg. D. Renton to 57th N. I., Surg. A. K. Lindesay to 18th N. I., to Officiate Garrison Surgeon Chunar.

Resignations.—Vet. Surg. J. Forbs on Lord C.'s fund, Assist. Surg. R. Washbourn on Lord C.'s fund, from 15th Dec. 1834, Surg. G. Gowan M. D. from 24th April, 1834.

Birth.—Feb. 18. Mrs. J. Swiney, of a son.

Deaths.—At Cawnpore, on the 30th Jan. lady of Asst. Surg. D. Menzies H. M. 16th Foot.

WAR-OFFICE.

Oct. 2. Assist. Surg. Lawson to 7th Dec. 50th Foot, Geo. Gulliver to be Assist. Surg. Oct. 16, Mich. Nugent and A. Anderson to be Assist. Surg. to the forces. Oct. 23, C. McLaren, Asst. Surg. to the forces. Oct. 30, G. Ferguson to be Assist. Surg. J. Courtney to be Apoth. to the forces. Nov. 27, A. Graydon, M. D. to be Asst. Surg J. Kirby to be Assist. Surg. 10th Light Dragoons.

NOTICE TO CORRESPONDENTS.

The following communications will appear in our next.

Mr. Chapman's cases of deformity after burns.

Dr. Webster's case of Tubercles in the cerebrum terminating in chronic Hydrocephalus.

D. S.'s Hospital Reports, General Hospital, Calcutta.

Brett's Surgical Clinique, Cawnpore.

J. G. on Canine Pathology, also his second essay on intellect and corporeal action have been received.

We gratefully acknowledge Mr. Hunter's valuable paper being a historical report of the Diseases of H. M. 2nd or Queen's Royal Regt. from the year 1835.

We have received our friend Mr. Brett's second letter. The question regarding the subject of Stevenson's work shall be fully answered. We shall address him in a few days by dawk. Regarding the other questions, our reply is favorable.

To our friend J. F. Deyrah Dhoon we beg to say we require a drawing of the valley, exhibiting the cantonments and resident's dwellings.

We beg to acknowledge the receipt of orders on the General Treasury from C. Mackenzie, Esq., J. Robertson, Esq., and I. Strot, Esquire, our acknowledgments of receipts through houses of agency will be made by the members of firms to their constituents.

☞ To avoid double postage and the disagreeable necessity of having their copies returned to us, we shall feel obliged if our subscribers will immediately on a change of residence inform us of their new address.

THE INDIA JOURNAL

OF

MEDICAL AND PHYSICAL SCIENCE.

Vol. III. Old Series.] APRIL 1, 1836. [Vol. I. New Series. No. IV.

ON REMOVING DEFORMITY SUCCEEDING BURNS.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—In the 16th No. of the 2nd volume of your Journal, a case of operation for "removing deformities succeeding burns of the arm and fore-arm," is detailed by Mr. Roberts of Bangor.

Having had lately under my care three cases of a similar description, I beg to state the plan of operation I adopted, somewhat different to that of Mr. R's. and a mode of subsequent treatment, which I am inclined to suppose better calculated to obviate this deformity.

The appearance which this deformity presents is, I believe, always the same,—a thin but deep bridle of integument connecting the arm and fore-arm, and forming at the elbow an angle more or less acute.—In performing the necessary operation, little more seems to be required than a simple incision dividing the integuments fairly to the bend of the arm, and keeping up proper and continued extension,—such is the opinion of Dupuytren and others. Performing this operation by a single incision, cannot, I am persuaded, remedy this deformity to any great extent, as it will be almost impossible to prevent the cicatrix from again contracting as the wound heals. In one instance this took place in a patient under my care; I however, subsequently adopted the operation I shall now detail; one which will be found to answer better than either of those proposed by Dupuytren or Mr. Roberts. It consists in making two incisions, so close to the arm and fore-arm as to include a portion of the normal integuments of both. An incision of this description, giving to the excised part a triangular form; a good deal of blood necessarily flows, but it is easily restrained by pressure. The advantage of this mode appears to be, that the arm is brought immediately to nearly its natural form, and the wound, while the healing process advances, is much less disposed to contract. Lint smeared with a little simple ointment to cover the raw surfaces is now used, and two fracture splints, on the arm and fore-arm, are to be applied with moderate pressure. I now come to that portion of the treatment on which depends the success of the operation. This consists in keeping up a proper degree of extension by suspending from the wrist a weight, of at first lbiss, and increasing the weight as the cure proceeds; at the same time binding at the wrist and top of the shoulder an elastic piece of bamboo band, drawing with a bandage the centre of it towards the bend of the arm; this is of much consequence, as it forms an antagonist power to the flexors, which the patient, to receive temporary relief from the suspended weight, constantly throws into action.

Two cases which I treated in this manner, have succeeded quite to my satisfaction; one of them, a robust jail prisoner, who received the injury, eight years since, the other a delicate boy of 14 years, whose deformity was of four years standing.

I am, Sir, yours' truly,

T. Chapman, M. D.

Purneah, January 11, 1836.

CASE OF TUBERCLES IN THE CEREBRUM, TERMINATING IN *CHRONIC HYDROCEPHALUS,*

By A. B. Webster,

Assistant-Surgeon.

We beg to call the particular attention of our readers to the following case of tubercles in the brain drawn up with great care, discrimination, and talent by Dr. Webster.

The case is important inasmuch as it proves that the formation of tubercles in this instance proceeded from a constitutional affection.

The distortion of the eyes and pendulous state of the eye-lids to which Dr. Webster alludes were in our opinion symptoms of the tubercular deposition in the brain.

M. J. W., aged 3½ years, a girl of rather delicate constitution, but sharp and intelligent. Had an attack of hooping cough last autumn which formed well and from which she had a good recovery, after laboring under it for several months. About the end of March last, her relations began to observe an unusual expression in the eyes, which were dull, heavy, and shining, with great distortion of the balls, and a falling down of the eyelids, or in other words, an inability to keep them permanently raised. The eyeballs were turned obliquely upwards towards the inner canthus more, particularly the right one, which continued throughout to show a more unnatural appearance than the left; with all this there was apparently no disturbance of the general health, so much so, that her relations, who were anxiously alive to the most trifling circumstances affecting it, did not think it necessary to consult their medical attendant, though sensible at the same time of the unnatural appearance of the eyes. Once or twice, during probably the space of a month, she complained of a pain in her head; but so slightly, and so transcient it seemed, that little attention was paid to it farther than ascribing it to rather a costive state of the bowels, and prescribing for it a gentle laxative. She took her meals as usual, and was in her customary good spirits; but it began to be observed that she slept longer than formerly during her afternoon sleep; that more coaxing was necessary to keep up her attention whilst repeating her lessons and that during her sleep her eyelids were only *half shut;* matters continued in this state for about a month, when no change taking place for the better, but on the contrary the eyes becoming more distorted with *dilatation of the pupils*, and rather an increase of the drowsiness, her friends got alarmed, and about the beginning of May they consulted their medical attendant.

On examining the child, and taking into consideration the symptoms that then shewed themselves, viz., the distortion of the eyes, their dull, heavy appearance—the dilatation of the pupils, which, however, contracted readily enough on the application of a strong light—the pendulous state of the eyelids—the repugnance of the child in her ordinary movements to look towards the light—and the drowsiness—all these being unattended with any decided pain in the head—acceleration of the pulse or febrile disturbance of the system—he (the medical attendant) had suspected mischief to be going on in the head, and treated the case accordingly; leeches were applied to the forehead, and temples and were repeated in a few days after; a blister was put on the nape of the neck and kept open by means of the Ung cantharid; the head was shaved; the bowels repeatedly opened, and the strictest attention to quiet and regimen enjoined. These remedies were continued for 8 or 10 days, and were followed up by a course of calomel, 2 grains 4 times a day. This treatment was pursued for 10 or 12 days longer, by which time upwards of 100 grains of colomel had been taken, when it was deemed proper to intermit the whole for a short time (about a week) to observe the effects produced and to allow the system to rally a little.

A slight change for the better seemed to have taken place. The eyes were less turned up, the eyelids less pendulous, and the child declared she had no pain in the head.* This apparent amendment, however, only continued for a few days. She now began to complain decidedly and loudly of pain in the head, which came on in evident paroxysms, and for the first time was attended with crying. She slept almost constantly, and with the *eyelids half shut*, but when roused she was as completely sensible as at any time during her life. The eyes became more distorted, and it was remarked that the head was a little enlarged and unequal, particularly on one side (the left) behind the ear. The pulse was sharp and wirey, ranging between 120 when asleep to 140 when awake. It may again be here repeated that until the medical treatment was commenced, the pulse was nearly natural; there was no heat of skin, and her appetite was good. In fact, as before observed, there seemed to be no disturbance of the system till the remedies were used, or if there was any, further than the tendency to drowsiness, it was so slight as not to be observed by her relations and attendants.

From the aggravation of the symptoms above described, and all attendant circumstances, there seemed little doubt now of her disease being chronic hydrocephalus; and its treatment was resumed with still more energy than before. The calomel was repeated in the former quantities; a brisk purgative of jalap and rhubarb was given every morning; the issue in the neck was renewed, and a copious discharge from it kept up, and the tartar emetic ointment rubbed on the head twice a day till a moderate eruption of pustules was produced. With all this treatment, however, little, or if any, only transient benefit

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* This child was so intelligent that we could rely on the correct description of its feelings.

seemed to be derived. Some days the attendants fancied a change for the better had begun to take place, but the morrow dispelled all their hopes. The drowsiness, distortion of the eyes, and paroxysms of head-ach continued and soon changed into complete stupor; the pulse rising to 150 and 160 and irregular. In this state the child remained upwards of a month, taking all the time a moderate quantity of food (such as sago, arrowroot, &c) till the system gradually and even imperceptibly giving way, she expired about the beginning of August.

During the whole progress of the disease, even from the commencement, it was remarked by the attendants and professional men, the large quantity of feculent matter brought away by the purgatives. It was incommensurate with the quantity of food taken into the system Though the purgative was given every morning without intermission for upwards of a month, producing always 2 and sometimes 3 copious stools a day, yet at the end of that time, the quantity excreted daily continued undiminished, even up to within 12 or 14 days of the child's death. Nor were the stools watery: the first was always thick and consistent, of a dark bilious colour, the others thinner and inclining to yellow. Convulsions of the arms and legs were frequent, though not severe during the last 3 weeks, and about this period there seemed to be a trifling degree of paralysis of the left side. Life in this child was peculiarly tenacious—so gradually and even imperceptibly did it ebb, that it continued to exist for a fortnight after mortification had attacked the integuments of the abdomen, neck and back.

An inspection of the head after death was permitted; but the object being only to satisfy the relatives as to the nature of the disease, by ascertaining the existence or otherwise of water in the ventricles, the dissection was necessarily hurried and superficial. On removing the scullcap, there were found strong adhesions between the dura mater and the posterior portion of the parietal bones, at which place the inner table was almost entirely absorbed and presented the appearance of a piece of wood affected with dry rot; to this spot the child most generally pointed when asked as to the pain in the head. No separation of the sutures had taken place, but the scullcap was remarkably thin and diaphonous, and when it was removed, the dura mater under it seemed quite tinged as if distended with a large quantity of fluid in the ventricles only between 4 and 5 oz. however were contained in them. The brain was firm, but the piamater and tunica arachnoides had no marked inflammatory appearance; on cutting off a portion of both hemispheres on a level with the fornix, several round tubercles, of the size of a pistol bullet and of the colour and consistence of Dutch cheese, were imbedded in the substance of the brain.—There were about 5 or 6 of these tumours altogether; but there was one larger than the rest, about the size of a walnut, situated towards the base. On taking another slice off the hemispheres, there were observed 2 cavaties or sinuses, situated in the middle lobes of the cerebrum, one on each side of an extent capable of containing a moderate sized kidney bean. No trace of water or pus could be detected in them. Their walls were pulpy and softer than the rest of the brain; and so near the surface were they, that the outer wall of the one on the left side was not above the thickness of a shilling; in fact it might almost be said that the surrounding membranes formed the walls at this side. No communication with the lateral ventricles could be seen. The cavities of the chest and abdomen were not opened, as no peculiar morbid affection was effected to be found in them.

On reviewing the particulars of this case, there are several circumstances worthy of notice, and first as to the commencement of the disease. There is great reason to believe that the deposition of tubercular matter was the first stage; and that this was not attended with much vascular action in the head, is probable from the almost total absence of headache and of general disturbance of the system, even when the appearance of the eyes and drowsiness indicated that something unusual was the matter with the child. It is also not unlikely that these symptoms (distortion of the eyes and the drowsiness) were caused by the pressure of the tubercular masses on the brain rather than by the existence of water in the ventricles, which, it is more than probable, did not take place till a period very little anterior to the supervention of the stupor, or about the time when the pain in the head came on in paroxysms attended with crying. Could the formation of the tubercles have had any connection with hereditary indisposition? Were they a constitutional or merely a local affection? The following circumstances give a probability to their being constitutional. The only brother (a year younger) of this child died six months before of a tubercular affection of the liver, accompanied with, or rather terminating in, effusion into the head. The liver was immensely enlarged, and studded with tubercles bearing a great resemblance to those in the brain of the girl. The misenteric glands were also slightly enlarged. The mother of these children too, died within a few days of the boy, of tubercular consumption. The distortion of the eyes and the pendulous state of the eyelids were the symptoms that first pre-

sented themselves and attracted the notice of the attendants; the child in other respects seemingly being in her usual health, walking about and taking her food as if nothing was the matter with her. Is this the usual way in which hydrocephalus attacks, or may these symptoms more particularly indicate the commencement of the tubercular deposition in the brain? The two sinuses—How were they formed? Were they the seat of tubercles which had been softened down and absorbed, or were they regular abscesses, containing at one time pus which had been absorbed? Lastly, the quantity of feculent matter discharged from the bowels. Was this a feature of this peculiar disease, or was it the consequence of the use of the calomel?

CANINE PATHOLOGY.

To the Editor of the India Journal of Medical and Physical Science.

Dear Sir,—If canine pathology is not beyond the pale of the Medical and Physical Journal, so ably edited by yourself and copiously supplied with interesting matter, may I ask the favor of you, to give the following concise case a portion of your columns. It will be interesting to the sportsman, and I hope not less so to the physiologist. On the 1st September, 1835, I was asked by a lady to administer some relief to her favorite dog Rover, a large pointer, 5 years old, which she thought to be in a very hopeless condition. Being anxious to save the life of a sagacious and amiable creature, I inspected poor Rover, and found him suffering under the lank distemper, with an ulcer extending over the whole upper jaw, exposing the cartilages of the ear and threatening the eye; it was about ¼ of an inch deep, in a horrid sloughing state, with maggots. I even had some suspicion that the brain was not untouched. Before I tried any remedy I referred to Mr. Blaine's famous work on canine pathology, and found the treatment for lank distempers, but nothing which would serve the desperate condition of the ulcer. In the lank, canine distemper, the object of the veterinary surgeon is first to remove visceral obstruction: for which Mr. Blaine mentions remedies, these I did not think would answer Rover's case, and made trial of the sol. chlo. soda in aq. cinnamon, 30 drops of the former to an ℥; of the latter, ter in die, ol. ricini ℥ ss. ordering the ulcer to be washed with brandy and water and covered with cloth dipt in tinct. myrrh.

Sept. 2d. The oil has operated freely; he has taken the soda draught once in the evening; the dog is not so dull. Ulcer is cleaner but there is still considerable sloughing Directed the application of chalk and charcoal in fine powder to continue tinct. myrrh.; diet a little meat boiled in rice.

3rd. The ulcer is clean, the extent of the disease is now exposed. Tongue of a lead color, indicating an accession of disease; nose dry—a bad symptom in dogs according to Mr. Blaine; another dose ol. ricini was given and the soda draught continued; the edges of the ulcer touched with nitras argenti; it was impossible to keep on any plasters on account of struggling.

4th. Rover is more cheerful: treatment continued; omit the tinct. myrrh and dash salt water cold upon the ulcer, which is indolent.

6th. The dog is thinner and somewhat weaker; omit aq. cinnamon and sol. chlo. soda; tongue dirty; nose more moist; ulcer indolent.

R. Pulv. jalap, gr. xv.

Potas supertar, gr. xxx.

Aq. menth pip. qs. M. ft. haust. stat. sumend.

7th. Improvement: there seems healthy action in the ulcer; dash with salt water. Diet the same; more in quantity.

8th. Much the same.

R Pulvis cinchon lancy, ℥jss.

Aq. fon qs. x. M. ft. haust.

Stat. sumend.

With this treatment, and now and then a purgative, he has quite recovered.

Yours,

J. G.

Sulkea, February, 1836.

GENERAL HOSPITAL.

To the Editor of the India Journal of Medical and Physical Science.

Dear Sir,—The accompanying cases of protracted labour, &c. in which the administration of the ergot of rye appeared to be followed by decided advantage, will probably be considered by you worthy of a place in your valuable periodical.

Yours truly,

March 9, 1836. Walter Raleigh.

Case 1st.—I was summoned in great haste by an European midwife to see the lady of a Captain of a ship who had been brought to bed of a male child eight hours previously, and notwithstanding that the nurse had made every effort to remove the placenta, she had been unsuccessful in her attempts. A rather copious hœmorrhage had existed for a considerable time, the patient was perfectly pale from loss of blood, the skin cool, lips livid, pulse scarcely perceptible at the wrist, and she frequently fainted.

On examination I found the abdomen soft and distended, and that no contraction of the uterus had taken place. The usual cold applications, &c. were had recourse to; and ergot of rye ʒj. having been infused in ℥ ivss. of boiling water, one-third part of the infusion was administered as soon as prepared.

No change having taken place after twenty minutes, I repeated another third part of the mixture. In ten minutes after taking this second dose, uterine pains began to be felt. The muscular contraction soon became active, and with the assistance of gentle extension by the umbilical cord, the placenta was brought away, and the womb contracted firmly. Coagula continued to be cast off for two or three days, and the patient rapidly recovered.

Case 2d.—I was called to see a young woman of about seventeen years of age, who had been thirty-six hours in labour: it was her first confinement, and the European nurse; although a skilfull midwife, was in great alarm. The pains which had at first been severe and frequent, had for several hours entirely ceased; the patient was deadly pale and much exhausted, with a feeble pulse, and skin suffused with perspiration. On examination per vaginam, I found the os uteri dilated, the membranes protruding in a pointed form, and that the feet presented with the toes turned towards the pubis of the mother.

I instantly administered a scruple dose of the ergot of rye, which having no effect, after half an hour I repeated; this second dose seemed to occasion a slight return of uterine contraction, but as it was but in trifling degree, I gave a third scruple dose after a second half hour had elapsed; in about fifteen minutes after which, vomiting ensued, followed by active uterine contraction, the membranes burst, and labour advanced unaided until the thighs of the child came fairly into the vagina, and admitted of a firm grasp, when I turned the child so as to bring its face towards the sacrum of the mother, after which the labour proceeded naturally, and the mother and child did well.

Case 3rd.—Occurred in a delicate young woman, the wife of an Assistant Apothecary at the General Hospital; she had been more than twenty-four hours in labour, and the pains, when I was called to her assistance by her mother, who is a midwife, had ceased; she was much exhausted and very faint. Examination indicated that the os uteri was fully dilated, but that the membranes had not ruptured; she took fifteen grains of ergot of rye with no effect. A second similar quantity was administered after twenty minutes, which in the course of a quarter of an hour was followed by vomiting, and strong uterine pains. The membranes gave way, and she was delivered within two hours after taking the first dose of rye.

Case 4th.—The lady who was the subject of this case, was a friend of Mr. Foy, our very able Apothecary of the General Hospital. As he attended the patient throughout her indisposition, I requested him to draw up her case himself, a verbatim copy of which I now give. "An East Indian lady, of delicate habit, had been suffering thirty-six hours in her first labour; the membranes had broken, but the pains had been inefficient and sluggish, and during the past five hours entirely suspended; the patient was exhausted, irritable, and had distressing hiccup. Dr. Raleigh prescribed at this time fifteen grains of the ergot of rye, infused in water, every half hour. Two hours from the first administration of the medicine, and after she had taken three doses, the uterine pains became brisk and frequent, and delivery took place within three hours from the first dose of the remedy."

Case 5th—A patient of the General Hospital in her sixth confinement had been suffering for forty-eight hours from inefficient labour pains; the membranes had given way in the early stage, and the presentation was perfectly natural, but for the last four or five hours the pains had ceased, and the woman had become much exhausted; fifteen grains of the ergot of rye were prescribed in powder every half hour; after taking the third dose, vomiting was induced, the uterine pains became energetic and rapid, and delivery was speedily effected.

March 9, 1836. WALTER RALEIGH.

GASTRO ENTERITES.

W. B., Æt. 46, an old soldier, of haggard appearance, pale and contracted features, but of immense muscular and bony formation, is suffering from an old diarrhœa with a dull, heavy pain at scrobiculus cordis, a troublesome cough, unaccompanied by expectoration, a dry rigid skin, sleeplessness, loss of appetite and general weakness. Pulse is full, soft, and regular, tongue glossy, brick red, and moist, stools thin, light yellow mucus, and glairy, with small black or dark green morcels, as of boiled peas, and white particles like rice or curdled milk. No fullness to be felt in either hypochondre, but there is pain on pressure in the umbilical region, and on stretching the arms above the head, or making any exertion of the abdominal muscles. His most comfortable posture is on his right side or back with the knees drawn up. Percussion and auscultation discover to the observer's unpractised ear, no appreciable lesion of lungs. The case in its general

nature is one of every day occurrence, viz., a constitution naturally robust broken down by dissipation, abuse of spirits, and effects of climate. The state of the tongue, the character of the expectoration, the sound of the voice, the colour and appearance and smell of the stools are the only indications in the treatment.

During 24 days that he lived in Hospital, a variety of treatment was followed. From 4 to 3 and 2 leeches were applied daily for a time over the epigastre ; blisters round the umbilicus ; minute doses of calomel with digitalis and opium were given 3 or 4 times a day, and the bowels cleared by castor oil, &c. every day or two.

Emaciation however, proceeded ; nothing like healthy secretion was procured ; the tongue became varnished, nay polished, dry and bright like a carriage pannel, its colour a dingy brown. Bark was now tried in ℥s. doses with 5 gr. of carbon. ammoniæ, and 5 of hydr. c. creta three times a day ; and for a few days with good effect. Finally, recourse was had to the nitric acid and black drop, but in vain. In truth the case was all along a hopeless one.

On post mortem examination the whole mucus membrane of stomach and duodenum was found to be softened, the muscular coat white, firm, and much thickened like boiled tripe. Within the stomach, the mucus membrane at the cardiac extremity was thickly studded with minute red spots of petechiœ, in patches the size of a rupee ; towards the pylorus, and along the duodenum it exhibited a uniform pink blush in streaks alternating with pale. The mesenteric glands were hard, cartilaginous white, with a drop of pus or tubercular matter in the centres. The omentum was a firm membrane opaque and thickened ; it adhered firmly to the parietes of lower abdomen to the caput coli and the ilium. The whole of the lower bowels were glued together by coagulable lymph. Some discoloration and minute ulceration of the caput coli.

The liver was tolerably healthy, its upper surface adhered to the diaphragm from old inflammation. The gall bladder was very large and the ducts contracted.

Remarks.—No indications of intestinal disease are so little understood, as those of the tongue, yet none appear to merit so much study from their eminent importance Even the French pathologists, who take the lead in researches of this sort, Andral, Martinet, and Rostan deal but in generalities in describing the morbid state of this organ. " La langue seche, indique la probabilité d'une phlegmasie del' estomac on de l'intestine grele."—Martinet. And " cet etat de la langue annonce une irritation d'autant plus violante des organes gastriques, *pulmonaires* ou *autres*, que cette secheresse est plus prononceé." —Rostan. Andral says in conclusion of his observations " Les mémes phénoménes revélent le plus ordinairement pendant la vie les alterations organiques de forme et de structure les plus differentes "

Do not remember any mention of this tongue by Dr. Abercrombie in conversation or in writing Nowhere indeed do I find any mention of this *highly vanished dry brown* tongue, which I have seen repeatedly, and have heard Mr. Twining speak of, as indicating muco jejunal inflammation

In the only two cases which I have had an opportunity of examining after death, there existed the petchial state of the mucus membrane of stomach above described ; the result apparently of low chronic inflammation in debilitated subjects and weakened vessels.

KREOSOTE.

There have been several cases of cutaneous disease in Hospital lately, furnishing an opportunity of trying the new German remedy the *Kreosate*, of which the following is a concise account :

This interesting substance, recently discovered by M. Reichenbach, in impure pyroligneous acid, has been applied with great success, both internally and externally, as a remedy for numerous disease, particularly in obstinate cutaneous affections, recent wounds, ringworm, &c., and by inhaling in disease of the bronchia and lungs. The following directions for its employment will serve as a guide to the medical practitioner.

INTERNAL ADMINISTRATION.

In spitting of blood, catarrhal affections, and obstinate vomiting, in doses of from two to six drops, 3 or 4 times a day, either of solution, (two drops being soluble in one ounce water,) or in the form of pills, mixed with liquorice root powder and mucilage.

In affections of the bronchia and lungs it may be most advantageously applied by inhalation, for which purpose pour into an inhaler, (capable of containing a quart,) a pint and a half of water, at a temperature of 150 degrees, adding to it 30 or 40 drops of the pure Kréosote, mix by agitation, and inhale the vapour through the tube.

EXTERNAL APPLICATION.

Kréosote may be employed externally, in three different forms, either pure, mixed with water, or united with simple cerate or lard, as an ointment. One dram of Kréosote, mixed with one pint of water, forms a lotion, which may be freely applied to recent burns or scalds, to chafed surfaces, and as for unhealthy ulcers; it may be applied undiluted to such parts as may require it, in the manner of a caustic ; as an ointment, the usual proportion is 30 to 40 drops to the ounce ; in many cases it may be employed much stronger.

In Tooth-Ache, a drop introduced into the cavity, previously dried with a bit of cotton, will in most cases give immediate relief.

The employment of this substance in ringworm, and similer diseases of the skin, has been attended with the greatest possible advantage, some practitioners considering it a specific. The strength to be employed in these cases must be regulated by the state of the eruption.

It may also be usefully employed undiluted, as an application to corns, warts, &c.; and also in solution, or diluted as an injection in leucorrhœa, gonorrhœa, &c.

It is highly important that this substance be employed in a state of purity or entirely free from certain deleterious principles, naturally mixed with it in the compounds from which it is obtained.

M. Buchner of Munich, recommends an alcoholic solution of Kréosote, in the proportion of one dram to one ounce of alcohol, as an application to carious bones and teeth; and also proposes as the bost mode of preparing Krèosote Water, to drop this alcocholic solution into distilled watcr, until it ceases to dissolve it, or becomes milky.

In 3 cases of adult ring-worm it seemed to do decided good; in two children it effected a speedy cure; in a case of caries tooth the relief from one drop was immcdiate and permanent, in a case of chronic rupia, and one of nerpetic scaly disease dependent on old constitutional derangement it rather did harm. In an irritable and scrofulous ulcer it allayed irritation, and seemed to act sedatively like its powerful prototype, the hydrocyanic acid and lead lotion; upon the whole from the result of 10 cases, I am disposed to think that this will prove a valuable addition to our Indian *medicinals*, where skin diseases are so numerous and troublesome; and it may sometimes succeed where all other known agents have failed. I should mention that the drug was kindly supplied to me for trial by Messrs. Bathgate and Co., and that Dr. Jackson is now engaged in attempting its very laborious and difficult preparation at the Company's Dispensary.

D. S.

CASE OF CONGENITAL CATARACT IN A YOUTH OF 18, RESTORED TO SIGHT BY OPERATION.

By T. H. Brett, Esq.

Khundoo Pundit, native of Saugor, was born blind; his mother states that she had kept him in a dark room until the 10th day after her confinement, when on taking him to the door, and exposing his eyes to the light, she discovered the pearly appearance of the pupils peculiar to cataract, and that he has always been blind.

He is intelligent and chcerful, and has been in the habit of finding his way about Saugor, and the adjoining country, for many ycars, frequently singing, of which he is very fond. He had little or no inclination to undergo the operation, at least not sufficient to overcome the fear which he entertained. He could perceive the light, and had acquired the habit of rotating the head constantly in progression in a regular and curious manner, to the right and left, with a view, I imagine, of admitting the light to the retina, obliquely between the circumferencc of the cataract and the under edge of the iris. It was a long time before his relations could persuade him to submit to an operation.

He had requested to be taken to me some months previous, gratified at being told that he might be made to see like other people; but the slight inconvenience attending the introduction of a few drops of the solution of belladonna into the lids, and my holding the lids to try how they should be supported, annoyed him, and he said he would much sooner go home and eat his dinner. "What do I want with being restored to sight?" His mother likewise expressed her disbelief as to a person born blind being made to see. The principal Pundit of the Mohulea at length overruled the objections.

Appearance of the cataract. It was evidently entirely membranous, studded with a great number of pearly spots. The operation was performed on the 28th of August, with a delicate straight sharp double edged needle, introduced in the usual position for cataract, and carried horizontally forward. Its substance, which was of very tough consistence, cut into two or three shreds, and left principally in the anterior chamber, without submitting the delicatc organ to much irritation by too often repeated motions of the instrument. He complained of but little pain, and indeed there was scarcely any inflammation whatever produced by the operation. He immediately became conscious of a considerable increase of light.

The eye-balls, as in all cases of congenital cataract, moved about without any controul, which together with a very prominent superior orbitar process, and much spasmodic action of the orbicularis, offered great apparent obstacles to the introduction of the needle, and it was quite impossible to use any speculum, or to support the lids at all, which would only have encreased the irritation. I therefore find in all such cases it is better to introduce the needle without supporting the lids at

all, which has an instantaneous effect in keeping the eye-ball steady. The operator can see sufficiently distinctly to direct the necessary movements of the needle. The native operators seldom hold the lids in any case.

So little irritation had occurred, that I operated this day, the 30th August, on the left eye which resembled the former operation in every particular. No inflammation followed, but the right eye had become inflamed, in consequence of which his eyes remained bandaged for several days, and it became necessary to bleed him, and counter irritation was employed. He was purged with calomel and antimony, and leeches were once applied to the eye-brows.

He expressed himself as sensible of a remarkable change having taken place. The light was most distressing to him, and continued so for some time.

On the 8th day the absorption had proceeded very satisfactorily, several substances of various colours were presented to him. He could not recognize any of them until he had made himself acquainted with them by the sense of touch. He brought them very close to his eyes, moving his head in his accustomed peculiar manner. Whatever he attempted to reach, he always missed his aim at it. He expressed himself as highly gratified, and confident that he would see and know every thing, but did not like too much interrogation.

On the 12th day he came to me again. The eyeballs were no longer rolled about in their former vacant manner. He had acquired the power of directing the left eye, which had been most instructed, on objects. The right eye from inflammation, having remained bandaged. A lady shewed him her shawl ; he said it was red, which was correct, but did not know what it was, until examined by the hand. The platform in front of the house was recognized as green, and his mother said he had been examining many things at home. The absorption of the cataract had proceeded, leaving two thirds of the pupils of the left eye quite clear ; some inflammation still in the right. He said he was no longer afraid of me, and that he would submit to any thing I recommended.

On the 16th of September, he walked from the town to see me, accompanied by his mother. He had gained much information during his absence. The pupil of the left eye had become almost entirely clear. He said he had seen a great number of trees on the road, the lake, and a buggy passing by. He had now made himself acquainted with several things. What is this ? A lota. This ? A pawn leaf. Which answers were correct. A small hooka was shewn him, he touched it, and was told what it was ; several things were then presented to him, and the hooka was again brought. He observed, " I cannot tell ; you have submitted so many things to me, that I am confused, and forget their names." He felt it, and then exclaimed it is the same hooka. Presently it was shewn him a third time, he recognized it after having carefully viewed it from top to bottom without touching. He observed a book, remarking that it was red, a table, black and gold, but he knew not that it was a book until told so. It was presented to him a few minutes afterwards, and he recognized both the color and the book. He said he was extremely happy, and gratified with all he saw. He followed me with his eyes as I moved about the room, and pointed out the different positions I took. He recognized distinctly the features of his mother's face. She hid it under her chudder, he laughed, and observed that she had done so, and turned his face away. He said I can see every thing ; all I want more, is time to learn what they all are, and when I can walk about the town, I shall be quite satisfied. He could not ascertain whether any thing was round or square, smooth or rough. He distinguished the following : some partridges, the cage, and the cup containing the water. The colour of their plumage he correctly stated, also the windows, the fields, the sky, a child in arms, &c.

On the 17th he again came to see me. He pointed out every feature in his mother's face, her hair, the color of her dress, the different distances and positions which she purposely took, and when changing places with another woman selected her out. He stated, that if I would bring the red book I shewed him yesterday, he would recognize it. I accordingly brought him a red morocco box much resembling the book, but smaller ; he said it was the book ! At this period, his knowledge of the shapes of bodies and their sizes, was very imperfect, especially the latter. He directed his hand straight to whatever things were now presented before him. The last time I saw him, a small ivory looking glass, a paper cutter, and a cut jelly glass were placed on the ground. They were shifted and changed, and he distinguished each respectively. He was much amused, and laughed heartily. I gave him the looking glass, in which he noticed his face, and said it was like other people's " achcha." It will appear, therefore, that his judgment of distances, colors, motion and positions, was very considerable. That of size and form, was to be acquired more tardily.

From this period I quitted Saugor, and have heard nothing further of him

T H B.

REVIEW.

TRANSACTIONS OF THE MEDICAL AND PHYSICAL SOCIETY, VOL. VII. PART II.

ON THE CLIMATE OF VAN DIEMEN'S LAND AS A RESORT FOR INVALIDS FROM INDIA, BY T. E. DEMPSTER, ESQ., PRESENTED OCT. 4, 1834. THACKER AND CO., CALCUTTA,

To what vicissitudes is a British sojourner in India exposed! Born in an atmosphere the mean temperature of which is 52°, he is often suddenly exposed to the effects of excessive heat in this tropical climate, accompanied in innumerable instances with an extraordinary degree of fatigue and privation; we are not, therefore, surprised that the lungs, the alimentary canal, and the liver should be frequently disorganized, and the whole frame become the victim of incalculable sufferings and lingering disease. Perhaps there is no person in our tropical climate so subject to the changes we have alluded as the British officer. The effect of climate on him are not the regularly progressive changes of season operating in one spot, by which the constitution adapts itself to their gradual revolution, but he is liable to be called in a moment from a healthy cantonment in the temperate and moist atmosphere of Bengal to the foot of the Himalyah, to the Ghats in Central India, or the swamps of Arracan. Thus it is that so many are obliged to quit the field of professional duty and seek relief in a more healthy and congenial climate. Such a one would naturally be that in which the sufferer was born. The length of the sea voyage—the prospect of returning once more to the bosom of relations would tend to cheer the drooping spirits of the valetudinarian to such a degree as to improve the condition of his physical frame. But, alas, this boon can be enjoyed but by few. Debts and deprivation of allowances on going beyond the Cape are obstacles which too frequently obstruct his way, and he must, therefore, look to some spot to resort to by which he may escape sacrifices of such magnitude.

Every account of a congenial and healthy climate to which he can repair is a subject of infinite importance to the Indian invalid, when he is compelled to quit the scene of his duties and hasten to other climes for the restoration of his health. We have great pleasure, therefore, in proceeding to enquire into the paper by Mr. Dempster now before us, which professes to give an account of the climate of Van Diemen's Land as a resort for invalids from India. Unfortunately, however, it appears that the few observations our author has offered, are the result only of limited experience, and he is in consequence compelled to apologize that they are deficient in minuteness and accuracy of detail; he hopes, notwithstanding, to be able to convey a generally correct idea of the climate, and to indicate the class of individuals, who may expect to benefit by a temporary residence in the colony. This paper opens with the following account of the island.

"The island of Van Diemen's Land lies between the 42nd and 45th degrees of south latitude, and 145th and 158th of east longitude. It is situate at the southern extremity of the great continent of New Holland, from which it is separated by a strait about 30 leagues wide. It is begirt by a bold and rocky coast, presenting to the stormy southern ocean every form of rugged cliff and promontory.

The general appearance of the country in the vicinity of Hobart Town, (of which alone I can speak,) is that of one vast and dense forest. Steep hills of various heights, covered from the base to the summit with tall trees, rise in succession as far as the eye can reach, leaving little plain or level ground between. The higher hills, or such as assume the character of mountains, become bare of trees as they attain a certain altitude; and generally terminate in a rugged crest of basaltic formation.

A stranger, who has heard of the rapid progress of the colony, may naturally suppose, that the labor of man has already produced a considerable change in the aspect of the country; and may prepare himself to see extensive tracts of clear and cultivated ground. Nothing can be more opposite to the actual scene, he views on sailing up the Derwent. The quantity of land, that has already been reclaimed from nature, and subjected to the plough, (although really considerable,) appears to the eye utterly insignificant, when contrasted with the vast surrounding forest, which will probably never be entirely subject to the dominion of man.

There is perhaps no country of equal extent, within the temperate zone, in which the culturable land bears so small a proportion to that which is barren and unfit for the plough. Hardly one-third of the island has yet been located, but even now, the new colonist finds the greatest difficulty, in selecting an eligible spot to settle on. The re-

maining parts of the island are as yet imperfectly known ; but are generally believed to be barren, mountainous and nearly inaccessible,

In the Hobart Town, and New Norfolk districts, the proportion of arable land, is much smaller, than in most of the other settled parts ; and the soil is of very unequal quality. The narrow strips of level ground near the margin of rivers, and the low land or "bottoms" between the hills; consist of the richest alluvial soil, and produce food for man in unexampled abundance;—but in other situations, the land is of various quality, and requires correct agricultural management to render it productive. Van Diemen's Land, although well supplied with water, for all domestic purposes, is remarkably deficient in navigable rivers. Of these the Derwent is the most considerable, and is at its mouth, a river of great promise. Before reaching Hobart Town, it is more strictly an arm of the sea ; just above the town, its channel becomes somewhat contracted,—but it soon again widens, and, for a distance of 12 or 14 miles, assumes the appearance of a magnificent salt-water lake ; it then puts on the true character of a river running for a farther distance of 10 or 12 miles in a deep, narrow and winding channel ; after which (like most of the other Australian rivers), it soon degenerates into a mere mountain-torrent. None of its tributaries are navigable, and although dignified with the name of rivers, many of them are only streams of clear water running down from the hills over rocky beds."

Mr. Dempster next proceeds to describe the seasons, and without taking up the data of others, unfolds them to his reader as they appeared to him. When he first landed, such was the state of the weather that his impressions of the climate were far from being favorable.

"The wind blew with great violence from the south, accompanied by frequent and heavy showers; Mount Wellington was entirely hid in dense vapours, and the air felt cold and piercing in the extreme. But my sensations had been rendered morbidly acute by ill health, and recent exposure to a very high temperature."

The foregoing observations are truly important: we are so apt to judge of external circumstances by momentary feelings as frequently to draw the most erroneous conclusions. The invalid whose sensations are sensibly alive to every change of atmosphere and temperature, is not a fit person to judge of climate and country, as they are likely to influence mankind generally ; yet such is the effect of a morbid state of the system that the mind will judge in a peculiar way, and drawing its own conclusions, stoutly maintain its opinion. Under such feelings as those which Mr. Dempster experienced on arriving at the spot, many without making the reasonable allowances he has made, would have turned their face away and gone to other shores.

"March, April, and May (observes our author) correspond to autumn, in countries north of the equator. The mean temperature of this season is I believe, correctly stated to be about 65º of the Fahr.* The air is, in general, clear and bracing, and the whole season would be esteemed temperate and agreeable in any part of the world. Little rain falls in March and April, but sometimes a good deal in May. During a great part of the latter month, (in 1833) it blew a gale, from the N. W. Some calm days in March were warm during the forenoon, and the heat of the sun incovenient, for a few hours ; but the evenings were always so cold, as to render a fire agreeable, and warm clothing indispensible.

The winter months are June, July, and August: this too is the rainy season ; but rain does not fall as in tropical climates. There are considerable, but uncertain intervals of fine dry weather. The average temperature of winter is about 44°. The winter of 1833 was admitted to have been unusually mild. No snow fell on the low ground, either at Hobart Town or New Norfolk. For a few mornings only, did I observe the whole country white with hoarfrost. The tops of the neighbouring hills, of moderate height, were frequently covered with snow, early in the morning; but it melted and disappeared, after being exposed for a few hours to the influence of the sun. On the higher hills, it remained a longer time; and mount Wellington, which is about 3000 feet above the level of the sea, retaining sprinkling of snow on its summit all winter. A part of "the western range" visible from New Norfolk, was white with snow, all the time, I remained on the island. The water in shallow pools, and in vessels placed outside of the house, was frequently found frozen in the morning; but it speedily melted. The severity of the winter, and in different parts of the island, is very various, and depends on the elevation of the country. Although we had no snow at New Norfolk in 1833, yet in the neighbourhood of Bothwell, 34 miles distant, there were frequent and heavy falls. During the winter months, a dense fog often collects towards evening, and hangs over the course of rivers, and occupies the narrow valleys between the hills, leaving their summits visible above the mist. These fogs continue during the night, and early part of the morning, until they are dispersed by a breeze, which springs up from 9 to 11 A. M., again to collect at nightfall. In certain situations,

* I failed in obtaining a correct Meteorological Register at Hobart Town. The mean temperatures here given are taken from a useful little publication "The Van Diemen's Land Almanac, for 1833." From this source also, I have refreshed my recollection of several points relating to the seasons; but I have advanced no statement, which does not correspond with my own experience.

they remain all day. This formed my only objection to the beautiful village of *New Norfolk**, where I resided:—its situation rendering it peculiarly liable to these fogs in winter. Hobart Town, and other places in the immediate vicinity of the sea, do not suffer from this annoyance. The winter is, I think, generally considered the most pleasant season of the year: and indeed, nothing can be conceived more delightful, than a fine winter's day in Van Diemen's Land. The rays of the sun give an agreeable warmth; the air is cool, dry, and bracing, but entirely free from chilliness; and the atmosphere has a clearness and transparency, of which I can convey no idea in words. The temperature stimulates to moderate bodily exercise, but permits inactivity without pinching with cold. Of such days there are a large portion during the season.

The months of September, October and November form the spring. The mean temperature of this season is from 50 to 60º. A good deal of rain falls; much of the weather is delightful, but there are frequent, sudden, and extensive atmospherical vicissitudes. These alternations of temperature are not so frequent as in the spring of England; but their range is greater. In this season should the unwary traveller be tempted, by the mildness of the air, to mount the top of a coach thinly clad, he will soon have reason to repent his improvidence.

The summer months are December, January and February. It is difficult to give a correct idea of such a climate as the summer of Van Diemen's Land, the mean temperature of which is below 70º, and yet the thermometer occasionally ranges as high as 100 to 110º.

The forenoon is generally hot, and the sun so powerful as to render exercise, in the open air, irksome; but every perfect shade forms a cool retreat: during this time a light land wind blows. Before noon the sea breeze sets in, and with it comes a sudden and extensive fall of temperature. All may now go abroad without inconvenience, for the remainder of the day. The evening is generally so cool as to make a fire pleasant, and blankets at night can seldom be dispensed with; such is the ordinary summer weather. The land or north-wind, instead of being so temperate as above described, is sometimes sultry and oppressive; and the thermometer rises to 90, 100, and even as high as 110º. It may be laid down as a general rule, that the hotter the land wind, the more sudden and extensive will be the fall of temperature, which is sure to follow. So early as November, 1833, I experienced more than one good example of a Van Diemen's Land hot wind. The change, which succeeds these successive heats is most remarkable. While this "Sirocco" blows, all are oppressed with the sultry and heated atmosphere; suddenly the wind shifts, clouds collect, a smart shower falls, and the inhabitants are instantly transported, as it were, to another and entirely different climate. Fires are lit, great coats huddled on, and all moving about to keep themselves warm.

I used to be much puzzled, how to clothe myself at this season: warm clothing was oppressive during the forenoon; but if I ventured any distance from home thinly clad, I was sure to return pinched and benumbed with cold. Some of the oldest residents make it a rule never to put off their warm clothing, at any period of the year.

Having now given some separate account of each season, I proceed to notice the peculiarities of the climate as a whole; and first I would particularly direct your attention to the sudden and extensive alternations of temperature, to which it is liable, especially during the spring and summer months."

The foregoing is highly interesting. Mr. Dempster then proceeds to notice a point which offers food for disputation; namely, whether vicissitudes which are sudden and great in these latitudes are deleterious or not. But we will introduce the subject to our readers as it is communicated by the intelligent sojourner himself.

"The effect of atmospherical vicissitudes on the human body depends, I conceive, principally on three circumstances, viz. the suddenness of the change, its extent, and the condition of the weather before such change occurs—of these, the last appears to be of most importance.

Small and frequent diurnal vicissitudes, such as take place in England, seem to produce little injurious effect; but a sudden accession of cold, occurring after a *long period* of hot weather, is universally admitted to be highly dangerous and hurtful. In Van Diemen's Land the alternations of temperature are peculiar, and correspond to neither of the above cases. In summer there is generally a single diurnal change, but its range is considerable. Sometimes the heat is excessive, but it seldom continues above a *few hours*, and is invariably followed by a great and sudden fall of temperature.

It is a commonly received opinion in Van Diemen's Land, that these vicissitudes, instead of being deleterious, are positively salutary. That a sudden fall of the thermometer, to the extent of from 30 to 50º, must be injurious in many morbid conditions of body, cannot be doubted; but universal experience seems to prove, that to the great mass of the inhabitants these changes are at least innoxious.

The cause of this may be illustrated by a familiar example. Suppose a healthy individual to have taken as much exercise in a warm day at home, as to raise the temperature of his body to its highest standard, but without having carried it so far as to produce fatigue;—such a person may suddenly plunge into cold water, not only with safety but with advantage:—he will rise from his bath invigorated and refreshed. But should he continue his exercise so long, as to induce exhaustion and profuse perspiration, and *then* use the

* New Norfolk is 22 miles from Hobart Town and is situated on the Derwent, at the extremity of its navigable portion.

cold-bath he will expose himself to imminent danger."

"In Van Diemen's Land the healthy and vigorous inhabitant is occasionally subjected to a high temperature for a few hours; true, he is oppressed and incommoded, but neither exhausted nor debilitated; in fine, he is much in the condition of the person in the first supposed case. He is then suddenly plunged, not into cold water, but into cold air: the effect is the same in kind, viz. tonic and invigorating."

Such are the premises of Mr. Dempster. It is true that we are to judge of causes by their effects: but the position taken up by our author is controvertible, and may be overthrown even if we take it upon his own shewing. The high temperature in which the body is, renders ungatory the cold water, and there is no such thing as the supposition of extremes by the use of the cold bath on a heated skin: hence the salubrity of this mode of bathing as it is adopted in Russia. On the other hand sudden extreme changes of temperature in all countries, we should think, are productive of the most alarming diseases. The changes at Van Diemen's Land, it appears, are diurnal; the heat continues for a few hours and then comes the fall of temperature: we should like to know when that fall commences and the state of the thermometer from 3 P. M. every half hour to 8 P. M. before we could concur that sudden changes do exist, and in that climate prove positively salutary. Mr. Dempster observes that when fatigue is produced, the use of the cold bath would expose the constitution to imminent peril: but does he not mean that fatigue, when he talks of the constitution "oppressed and incommoded," under excessive heat during a sultry day? We should conclude, however, from Mr. Dempster's remarks that he was talking more of sensation than the relative changes of temperature as marked by the thermometer; for it is well known that the opposite sensations of heat and cold may on different occasions arise from the same temperature.

Without seeing a table or hearing that Mr. Dempster had seen one; of the variations of the thermometer, however, we never can credit that sudden transitions have in any climate proved salutary.

The conclusions to which Mr. Dempster arrives, are the following.

"That the climate of Van Diemen's Land is, on the whole, agreeable to the feelings, and conducive to the health, of its European inhabitants. Their appearance is eminently hale and robust, and the beauty of the children, and rosy complexions of the women, are most striking to the eye of the Indian visitor.

"The great extent of sea gives a particular character to climates south of the equator; the winter being mild, and the summers cold. Thus, in Van Diemen's Land, corresponding nearly in latitude to Rome, the winters are more mild than at Naples, and the summers not warmer than those at Paris, which is 7° farther from the equator. The effect on vegetation is very remarkable. Tree ferns, for instance, which require abundance of moisture, and an equalization of the seasons, are found in Van Diemen's Land, in latitude 42°, and in New Zealand in south latitude 45.* There are some splendid specimens of the tree fern growing in a deep, shady, and moist valley in the neighbourhood of New Norfolk."

Mr. Dempster coincides with others in believing that the climate of Australia has the effect of—

"Distinctly modifying the human race, even in the first generation. Almost without exception, the children have fair hair, and blue eyes:—they grow up tall, and thin, and soon arrive at puberty; in character they are energetic, intelligent, and courageous, and believe themselves a great improvement on the parent stock. This is more strictly a description of the Sydney youth. The rising generation of Van Diemen's Land (for there the *first* generation is only yet rising), promise to assimilate to the character of their neighbours; although I anticipate, they will excel them in "bone and muscle."

Mr. Dempster endeavours to account for the occasional prevalence of a hot wind occuring during the summer months; he endeavours to find a cause for it in the geographical position of the island.

"Whatever the nature of the interior of the great continent of Australia may be, this at least is certain, that a current of air in its passage over its surface in summer becomes intensely heated. Van Diemen's Land being situated at the southern extremity of New Holland, and only separated from it by a narrow strait, is alternately exposed to the influence of the sultry north wind coming from the main land, and to the cold breeze from the open sea, as it rushes forward to supply the place of the air, which has been rarefied by the action of the sun, on that vast tract of land. The insular situation of Van Diemen's

* Lyell's Geology.

Land forms its grand protection against the north wind. It is only when circumstances are favourable to its unobstructed passage across the channel, that the "hot-wind" is felt, in all its unmitigated violence.

The northern Island of New Zealand, although nearer the equator than Van Diemen's Land, being removed from the immediate influence of the great continent, is (I understand) neither subject to hot winds, nor to alternate land and sea breezes."

Mr. Dempster thinks that the extraordinary degree of salubrity which has been ascribed to the climate of Van Diemen's Land has been exaggerated, and although he acknowledges that several diseases of common occurrence, in European countries, have not yet made their appearance in that island: it may hereafter be found, he thinks to depend on causes unconnected with climate. On the subject of population he says:—

"In 1833, it amounted to 28,000. Of these a great majority may fairly be supposed to belong to a class, little subject to disease, viz. vigorous, grown up, and middle aged persons of both sexes, well fed, and well clothed; and fully engaged in healthy and active out-door employments. They have not yet suffered from the evils which arise from a dense and crowded population, or from those, which attend the extremes of riches and poverty.

I believe the climate of Van Diemen's Land to be as well suited to the European constitution, as any in the world; but as the inhabitants increase, and become congregated in large towns, I fear they must expect to come in for a fair share of those ills, which flesh is heir to.

The supposed unusual fecundity of the Australians, may perhaps be accounted for on nearly the same principles."

During Mr. Dempster's residence at New Norfolk he had an opportunity of seeing all the interesting cases of disease which occurred in that district; he visited daily the Colonial Invalid Hospital—an extensive and well-regulated establishment, containing on an average 120 patients.

"The nature of the prevailing diseases might be conjectured from the account I have given of the climate. They are catarrhs, cynanche tonsillaris, rheumatism, and pulmonic affections. Catarrh is, I think, less common than in England. I only saw a few cases of sore throat, but I understand it sometimes prevails in a severe epidemic form. Rheumatism, both acute and chronic, is often severe and obstinate. Acute inflammation of the lungs is of frequent occurrence, and if not treated in the most active manner, proceeds rapidly to a fatal termination.

I witnessed several cases of consumption. I believe I am fully justified in stating, that the climate is extremely injurious to persons predisposed to hœmoptysis; and that it is apt to excite to fatal activity, incipient tubercles in the lungs.

I was informed by a medical gentleman long resident in the Island, that no person born and brought up in the colony had died of consumption; but that a few children, who were sent to England for education, had been carried off by this disease on their return.

When I first arrived in Van Diemen's Land, no case of exanthematous disease had ever occurred. During the winter of 1833, I saw in the New Norfolk hospital a private of H. M. 63rd regiment, who was labouring under a severe and well-marked attack of scarlatina; this was, I believe, the first instance of the disease ever known in the Island.

Puerperal fever showed itself (I think for the first time) in the autumn of 1833. In the district of New Norfolk, six or seven persons were seized, out of a very limited number of females, and of these three died.

Ophthalmia is common, and often ends in impaired vision.

The number of persons afflicted with mania and structural diseases of the heart and great vessels, is, I think, very great:—they are almost all convicts.

Syphilis in all its forms, is now common enough.

Idiopathic fevers generally are of rare occurrence. Intermittents and remittents almost unknown. This last fact would seem to prove, either that miasma is not generated at all, or only in so diluted a form as to be innoxious."

On the subject of temperature Mr. Dempster observes:

"The mean temperature even of summer is extremely moderate, and any condition of the atmosphere, favourable to the production of miasmata, cannot continue long in operation, by reason of the frequent vicissitudes.

The annual quantity of rain, which falls, is less than in England. The country is in general elevated, and the water speedily carried off by running streams. High winds prevail at all seasons of the year; and the tall and scantily-leaved forest trees admit a free circulation of air, through most parts of the uncleared country. Dead leaves, and other decaying vegetable matter are consumed by the fires, which often take place in the forest during summer. It is worthy of remark, that scarcely a forest tree is to be found in any part of the Island, which does not bear on its trunk marks of burning."

In conclusion our author gives the opinion he formed on the value of the change the Indian is to anticipate on going to Van Diemen's Land.

"In estimating the benefit to be expected from the climate of Van Diemen's Land, it is well to bear in mind, that our experience of its effects on invalids from this country is yet limited; and that it may not, of itself, warrant any very confident general conclusions.

This experience, however, so far as it goes, is eminently favourable. Every one of whose case I could obtain an account, had experienced great and decided benefit; with the exception of a few persons, who arrived in the colony, either labouring under, or having a strong predisposition to thoracic disease.

But several, who in the end afforded the most triumphant proofs of the unaided effects of the climate, did not begin to improve, until they had resided many months on the Island.

A gentleman of my acquaintance, now settled in Van Diemen's Land, arrived from India in a miserable state of health, and labouring under chronic liver affection. For the *first year*, he experienced little or no relief; after which he rapidly improved, and is now one of the most healthy and active persons, I ever saw.

In recommending a voyage to Van Diemen's Land, the medical practitioner, who has made himself acquainted with the nature of the climate, will of course be guided by general principles. But so far as our present knowledge and experience go, I think we may safely conclude that, with a very few exceptions, all invalids for whom a change of climate is deemed necessary, may hope to derive the fullest benefits of such change, by a temporary residence in Van Diemen's Land.

Van Diemen's Land has, in one respect, a great advantage over all the other places in the Indian seas, usually resorted to by invalids from this country. The towns, the streets and shops, the inhabitants, manners and customs—all are English; every thing tropical is left behind and forgotten for a time; old and pleasing recollections renewed; and morbid associations and habits, broken and destroyed. The advantage of such moral remedies, in aiding the cure of long continued chronic disease, every physician will fully appreciate.

I do not know what objections may be offered to the following suggestion, on the score of expense; but I cannot doubt, that if all the convalescent depôts were abolished, and the sick of the European regiments sent to *one* well regulated sanitarium at Hobart Town, a vast number of men would be yearly saved, who are now lost to Government, either by death, or by being invalided, or discharged and sent home, as unfit for longer service in India.

I regret I am unable to add any satisfactory account of the climate of New South Wales. I arrived at Sydney on the 20th of January, and left it, on the 2nd of March. During the whole of this time, I suffered every inconvenience of a hot climate in full perfection. One visit of the "hotwind" lasted five days, without intermission; the thermometer rose to 106°, aud the climate exactly resembled that of the Upper Provinces of India, in April and May. Two of my children were seized with fever, and one suffered severely. But there was no unusual degree of sickness iu the town during these great heats; and every one went about his ordinary occupation in the open air, without even thinking of the protection of an umbrella. The inhabitants assert, that all the other seasons are delightful—more mild and less variable than in Van Diemen's Land.

It is probable that greatly debilitated invalids would do well to spend the *first* winter in New South Wales. Sydney is a handsome and populous city—provisions are cheap, and all the comforts and luxuries of a large town available."

THE INDIA JOURNAL
OF
MEDICAL AND PHYSICAL SCIENCE.
Calcutta: April 1, 1836.

MEDICAL COLLEGE—DEFECTS IN ITS CONSTITUTION.

It will be seen by our last number that the professors of the New Medical College have been actively and zealously employed since the foundation of the institution. The departments of elementary chemistry and the knowledge of the bones and muscles are all that could possibly be taught hitherto.

The acquirements of the students in these departments are alike creditable to their industry and persevering attention, as to the zeal, skill, and tact of the professors; and we do not exceed fair eulogium in adding that Mr. Bramley has surpassed our expectations, and that he has fully established his claim to the honorable post he now fills. Having said thus much, he will not, we hope, take it amiss if we point out certain defects in the constitution of the College. He will, we are sure agree with us, that as a public Journalist we have a duty to perform to the Government and to the public: to withhold the free expression of our opinion would render us unworthy of the confidence of either; and the columns of our periodical, instead of being the vehicle of truth and the faithful chronicle of passing events in the medical world, would become the servile instrument of party measures, and base and unworthy principles.

We shall premise our observations with the following sketch of the course of lectures proposed to be delivered by the professors.

MEDICAL COLLEGE.

Lectures on the following subjects will be delivered at the Medical College during

the years 1836 and 1837, on the days and hours herein specified.

ANATOMY AND PHYSIOLOGY.

The present course of lectures on anatomy and physiology will be continued as heretofore on Mondays, Tuesdays, Thursday's, and Fridays, at ¼ past 12 o'clock precisely till March 31st, when they will be concluded.

GENERAL CHEMISTRY AND NATURAL PHYLOSOPHY.

From April 2d to July 30th, at ¼ past 12. On Mondays, Wednesdays and Fridays.

Laboratory course for practical instruction, from June 1st to August 31st, on Tuesdays and Thursdays from 12 to 2.

Elements of the Theory and Practice of Physic, with occasional clinical instruction in the Hospital.

From May 2d to 31st August. On Tuesdays and Fridays at 3 o'clock P. M.

Anatomy, Physiology, Demonstrations, and Operations in Surgery. From October 10th to March 31st, on Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays.

The first or osteological division of this course will be delivered on the above days at ¼ past 12 precisely.

The remainder of the course will be delivered on the above days at 9 o'clock A M. precisely.

The operations in Surgery will be exhibited as opportunities offer.

MATERIA MEDICA AND PHARMACY.

From November 1st to February 28th. On Mondays, Wednesdays and Fridays at ½ past 2 P. M. precisely.

SURGERY.

From December 1st to March 31st. On Tuesdays and Thursdays at ¼ past 12 o'clock.

Hospital practice and attendance at the public dispensaries.

During the recess the pupils will attend regularly at the General Hospital, the Native Hospital, the Eye Infirmary, and the Government and other Dispensaries.

EXAMINATIONS.

Will be divided into two sections.

1st, Chemistry, Materia Medica, and Pharmacy.

2d, Anatomy, Surgery, and Medicine.

Examinations in the above departments of science will be held alternately on Saturdays at 12 o'clock.

The above course is well planned; and in Anatomy, Physiology, General Chemistry, Natural Philosophy, &c. we have no reason to doubt, the students will be well taught; but in the other departments, namely, the important branches of Surgery and practice of Physic in India, we cannot admit that any one of the incumbent professors are sufficiently qualified to instruct.

The oldest of the three professors, we mean the Principal Mr. Bramley, arrived in India in August, 1829, and has had no experience in the diseases of India as they prevail in various situations and in different constitutions. Dr. Goodeve did not arrive until April, 1831, and therefore has had less. But Dr. O'Shaughnessy, the other professor, has had least of all, having arrived so late as August, 1833. Now we are willing to admit that each and all of these gentlemen may be thoroughly acquainted with the principles of Cullen; they may be well versed in the arguments and subtleties of Brown and Darwin; endued with the doctrines of revulsions, of Broussais, familiar with French pathology; fresh from the theatre of Anatomy and the laboratory of Chemistry; and may have witnessed the whole of the clinique of Europe: but when they come to India their knowledge is bounded. Here they are to receive and not to afford instruction!

In tropical surgery and diseases they are wanting in practice and experience; these are the defects, and against which alone our commentary is directed.

In the practice of a Medical man there is a certain series of events attracting

his attention and constantly giving rise to new ideas. It is true these may be conveyed from one individual to another, and from one age to another; but then they come in different shapes and with different impressions, notwithstanding they are collected and formed into systems, and we will allow even then that they may serve as partial guides in Europe, where diseases are so generally understood. But this is not the case in India, where there is such variety of climate, and as great a variety of people as to habits, manners, and customs. We must also take into account that the history and management of tropical disease have not been conveyed through the medium of the press, from individual to individual and from age to age. Hence only those who have seen disease in India in all its varions shapes and characters on the Indian constitution, are able to point it out, and to discover remedies for its removal. It is therefore necessary to have professors in the College who are possessed of these acquirements: here are the desiderata, and we maintain without fear of contradiction, that they must be supplied to render the present system of instruction complete. We should therefore be glad to find added to the present number of professors not only a tried skilful experienced Surgeon, but also another experienced practitioner who can lecture upon disease as it appears on the European and native constitution in various parts of India—who has seen it in the field, in cantonment, in the North, in the South, and Eastern and Western provinces of India. We do not mean that these gentlemen should interfere with the principal or the incumbent professors to supercede them. The additional professors should be practioners,for it would be absurd to suppose any person capable of instructing on that from which he himself is to be debarred. It is only by the daily intercourse with disease, that the knowledge of its various modifications is to be attained and taught; it must be at the bed-side of the patient as well as in the lecture room. Abernethy, Sir Astley Cooper, Eliotson, Cline, and others were all not only professors but the leading practitioners of the day.

We have nothing to say however against either the rank or the ages of the professors: we are advocates for youthful professors. It will be found in the biography of a distinguished Surgeon, Baron Depuytren, which we give in this number of the Journal; that we find him reaching the chair of professorship at an early age; it was up the ladder of celebrity and distinction: we behold him battling his way to the very summit, or he would have been passed by others rushing on with equal skill and zeal for the same pre-eminence.

In such an arena as that there is real glory where the prize is bestowed upon the swiftest in the race: and glad should we be to find that the race is to be run, in this country, for the other professorships we have proposed. Let the prize be bestowed on merit as in the concour of Paris; let it be well contested. Then may we hope that some of the brilliant talents now in various parts of India will be invited to shew their credentials for being candidates for honorable distinction and fair reward.

Before we conclude we have to observe that we hear opinions expressed that our judgment is erroneously formed on the qualifications of the students as exhibited at the last examination. We gave them credit for affording satisfactory answers, but we could say no more. These youths have scarcely been instructed more than six months. To subject them at this period of their studies to an examination at all in any of the branches of Anatomy and Chemistry, as a test of acquirement, and to say more than what we gave them credit for; is in our opinion, unreasonable. We stated "that although they might give prompt replies to the interrogatories of their professors on the subjects of recently delivered lectures, these cannot be the result of mature reflection grounded on experience and knowledge."

We must also repeat that public trial of acquirements in the present state of the institution is prejudicial to the pupils, and is

not desirable, beyond the policy of proving to a certain class of sceptical politicians that native youths have ceased to cherish those prejudices which prevail among the uneducated portion of their countrymen

In every effort that is made to enlighten by education the native community, great caution is necessary if we desire to ensure success. We should not by any public noise subject Hindu youths to greater persecution than they are likely to experience, and thus put a stumbling block in the way of many others who would be ready to attend were the system of instruction carried on in silence and in secret. The native mind is not yet sufficiently prepared for an open avowal of enlightened principles

We would recommend the removal of all external circumstances which are likely to wound the prejudices of the people, and we see no occasion for the drawings and anatomical figures, but during the time of lectures or in a corner apartment where the students can unobserved retire to study. If these precautions are found absolutely indispensable even in civilized Europe, how much more should they be observed in benighted India. There is one circumstance which we would in conclusion respectfully bring to the notice of Government; viz., that the regulations direct that the formation of a plan of education and the rules and discipline of the institution shall be intrusted to the education committee," and "that the final examination for granting the certificates of qualification to practice surgery and medicine, or for admission into the service shall be publicly made by the committee of education", assisted ex officio by the Surgeon of the General Hospital, the Surgeon of the Native Hospital, the Garrison Surgeon, Fort William, the Superintendent of the Eye Infirmary, and the Honorable Company's Apothecary. We conceive nothing can be more humiliating to the Medical Service, than to have an institution which is formed for the instruction of native youths in the various branches of medical science, placed entirely under the control of the Education committee—a body of non professional gentlemen who must be entirely ignorant of the nature of such an institution. We feel satisfied that, to be remedied, this anomalous arrangement needs only to be brought to the notice of Government.

We have no wish to see any institution placed under the seniors of a profession merely by virtue of their seniority; but in a department like the medical in the Hon'ble Company's Service, we conceive medical institutions should be governed by medica men, with no other controuling authority than that of the Supreme Government.

After we had written the foregoing we attended the New College at Mr. Bramley's opening lecture. We were glad to see the Theatre well filled: the Right Honorable the Governor General, His Excellency the Commander-in-Chief, and Members of Council were present. Mr. Bramley delivered his lecture with pathos and ease: but as it is to be published by the Education Committee, we shall not attempt an imperfect notice of it, but wait patiently to lay it fully before our readers.

The lecture room, we are glad to see, had no exhibition of anatomical figures and drawings to which we objected in a preceding column, and which in our opinion it was injudicious to suspend at the Hindu College.

The lecture room is nearly an amphitheatre and well proportioned; the adjoining rooms, &c. are also admirably arranged and creditable to the judgment of Mr. Bramley and his colleagues.

BOSTOCK'S HISTORY OF MEDICINE OF THE NINETEENTH CENTURY.

As the historian of medicine approaches nearer to his own times, he finds his path encumbered with almost insurmountable difficulties. The subject on which he has to treat differs, perhaps, from every other branch of science in this circumstance, that our actual information does not increase, in any degree, in proportion to our experience. Hence it follows that the accumulation of materials frequently rather retards than promotes its progress. In other sciences, although truth is not to be attained without a certain degree of laborious research, yet to those who are willing to bestow on it the requisite attention, it is, for the most part, at-

tainable, or, if it still eludes our grasp, we are at least sensible of the deficiency, and can generally ascertain the precise nature of the obstacles which impede our progress. In other sciences, when we enter upon an inquiry, or propose to ourselves any definite object for experiment or observation, we are able to say whether the result of our inquiry has been satisfactory, and whether the object in view has or has not been accomplished.

But this is unfortunately not the case in medicine. There are certain peculiarities necessarily connected with the subject, which render it extremely difficult to appreciate the value of experiment and observation. In our experiments we are seldom able to ascertain with accuracy the previous state of the body on which we operate, and in our observations we are seldom able to ascertain what is the exact cause of the effect which we witness The history of medicine in all its parts, and especially that of the materia medica, affords ample testimony to the truth of these remarks. In modern times, and remarkably in Great Britain, no one thinks of proposing a new mode of a practice without supporting it by the results of practical experience. The disease exists, the remedy is prescribed, and the disease is removed ; we have no reason to doubt the veracity or the ability of the narrator; his favourable report induces his contemporaries to pursue the same means of cure, the same favourable result is obtained, and it appears impossible for any fact to be supported by more decisive testimony. Yet in the space of a few short years the boasted remedy has lost its virtue, the disease no longer yields to its power, while its place is supplied by some new remedy, which, like its predecessors, runs through the same career of expectation, success, and disappointment.

Let us apply these remarks to the case of fever, the disease which has been styled the touchstone of medical theory, and which may be pronounced to be its opprobrium. At the termination of the last century, while the doctrine of Cullen was generally embraced, typhous fever was called a disease of debility, and was of course to be cured by tonics and stimulants. No sooner was it ascertained to exist, then bark and wine were administered in as large doses as the patient could be induced, or was found able to take. No doubt was entertained of their power over the disease; the only question that caused any doubt in the mind of the practitioner was, whether the patient could bear the quantity that would be necesssry for the cure.

To this treatment succeeded that of cold effusion. The high character and literary reputation of the individual who proposed this remedy, its simplicity, and easy application the candid spirit which was manifested, and the strong testimonials which were adduced by his contemporaries, bore down all opposition, and we flattered ourselves that we had at length subdued the formidable monster. But we were doomed to experience the ordinary process of disappointment ; the practice, as usual, was found inefficient or injurious, and it was, after a short time, supplanted by the use of the lancet. But this practice was even more short lived than either of its predecessors ; and thus, in a space of less than forty years, we have gone through three revolutions of opinion with respect to our treatment of a disease of very frequent occurrence, and of the most decisive and urgent symptoms.

Are we, then, to conclude that all medical treatment is of no avail? that it is all imaginary or deceptive ? I should feel most unwilling to be compelled to form such a conclusion, nor do I conceive that it necessarily follows from the premises ; but the facts certainly prove the importance of extreme caution in forming our conclusions, and still more that mere experience, without the due combination of well regulated theory, is a most fallacious guide. What objection can the man of mere experience, the rejector of all theoretical deductions, urge against the multiplied testimony that is now presented to us in favour of the Homoiopathic doctrine?—what answer can be made to the Report that has been recently brought forwards, by the medical commissioners of Paris, on the subject of Animal Magnetism? The conclusion that forces itself irresistibly on the mind is, that no medical testimony is sufficient to establish a fact which is in itself incredible, and that this previous incredibility can only be ascertained by an extensive and accurate knowledge of the functions and properties of the living body, both mental and corporeal, in all its modifications and under all circumstances, and by a correct and careful generalization of the knowledge thus obtained. These considerations, as well as others which will present themselves to the mind of the reader, may be deemed a sufficient reason for my attempting no more than to offer a few general observations on the state of medical science during the period at which I am now arrived. I shall therefore devote this chapter to some cursory remarks on the practice of medicine as it now exists in the different countries of Europe, as well as on the state of some of the collateral or auxiliary departments, and shall conclude by some suggestions for the best means for promoting its future progress.

The prevailing and predominant feeling of the most enlightened and the most judicious of the British practitioners during the period referred to, has been to place little value upon theory, and to devote their minds almost exclusively to the observation and collection of facts, There can be no doubt that this is a less injurious extreme than the opposite ; but if the statement which had been made above be correct, it will probably be admitted that this system may be carried too far. And the same exclusiveness has also induced them to pay too little attention to some of the collateral departments of science. In pathology and in pharmaceutical chemistry they have been far outstripped by the French, and in physiology by the Germans. But at the same time that I feel it necessary to pass this judgment on my countrymen, I must fully admit that the spirit of rational empiricism, to which I have referred above, as the characteristic feature of the Cullenean school, has produced a most

beneficial influence on the general state of medical practice. If it has, on some occasions, produced fluctuation of opinion, and in others indicision or inertness, it has tended to sweep away much error, and to purify the science from many of the antiquated doctrines and practices, that still maintain their ground among our continental brethren. This is more especially the case with our pharmacopœias, where, if we compare those of London and Paris, we shall be struck with the number of that we conceive to be useless articles that are still retained in the latter, sanctioned by the authority of the scientific and enlightened body of men who compose the medical faculty of the French metropolis. We are, however, indebted to France for the most important improvements which have taken place in pharmaceutical chemistry: by their method of obtaining the proximate principles of various vegetable substances, and the greater precision which they have introduced into the formation of the metallic preparations, they have conferred a great and lasting benefit on the art, which, among all the revolutions of opinions and practices, can never be contravailed.*

But the glory of French medical science is its pathology. We are justly proud of our Hunters, our Monros, and our Baillie; and there are certain individuals among our contemporaries who are emulously treading in their footsteps. But any feeling of national vanity which we might be disposed to indulge, must be effectually repressed when we look at the illustrious band of French pathologists, when we review the labours of Pinel, Andral, Breschet, Broussais, Corvisart, Cruveilhier, Dupuytren, Laennec, Bayle, Louis, Gendrin, Foville, Chaussier, and others,† who have directed their attention more exclusively to pathology: and when we add to these the names of those who are to be regarded more in the light of physiologists, Bichat, Vicd'Azyr, Cuvier, Richerand, Majendie, Edwards, Dumas, Legallois, Adelon, Demonlins, Serres, Blainville, Flourens, St. Hilaire, Dutrochet, and others, we must admit that France exhibits an unrivalled assemblage of medical philosophers. From the united labours of these eminent men it is impossible not to anticipate the most important results; but I believe that I am justified in asserting that, so far as the practice of medicine is concerned, the benefit is still rather in anticipation than in existence. With certain exceptions, but these no doubt very important ones, I should characterize the French practice as decidedly less effective than that of our country; dependence is placed on remedies which we conceive to be inert, and much of the dietetic regimen which enters so largely into the treatment can produce no effect in the removal of disease. In short, their "médecine expectante," although it may be a less dangerous weapon in the hands of ignorance or presumption, is, in the same proportion, less powerful and beneficial when under the direction of skill and judgment.

If France is pre-eminent for its pathology, Germany is no less so far its physiology and its anatomy. The names of Comper, Blumenbach, Ludwig, Soëmmering, Meckel, Wrisberg, Reil, Tiedemann, Wenzel, Sprengel, Jacobsen, Carus, Pfaff, Oken, Osiander Ackermann, Rosenmüller, Gmelin, Walter, and Treviranus, may be selected from many others, as among the most celebrated throughout Europe, and as having made most important additions to our knowledge on the subjects to which they have particularly directed their attension. Yet in Germany as in the France, the effect of this scientific co-operation on the practice of medicine is not yet fully experienced. The treatment of disease is perhaps not more effective than in France, while it is still more encumberred with complicated formulæ and with antiquated practices, which in this country have been discarded because they have been found useless or even injurious.* Italy, which so long took the lead in all scientific pursuits, now offers the prospect of a splendid ruin, where we occasionally meet with an illustrious name, such for example as those of Scarpa, Caldani, Mascagni, Rolando, Bellingeri, and Tommasini, but where medical science, if it has not retrograded, has at least remained stationary. The practice of medicine has, however, had some zealous cultivators; I have already remarked on the activity with which the Brunonian controversy was pursued, and the excitement which was then produced seems to have had a beneficial effect in rousing the dormant energy of the mind, of which some traces are still visible.

A circumstance which has materially contributed to the improvement of the knowledge of practical medicine is the publication of periodical works, whether in the form of journals or of the transactions of societies. They have brought before the public the daily occurrences and passing events in a commodious and interesting form, and thus by exciting

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* We have a very learned review of the state of medicine during the early part of the present century from the pen of the celebrated *Sprengel*. It is peculiarly valuable, from the numerous references which it contains to the writers of Germany, and from the view that it presents of the opinions which prevail in that country. The German physiologists affords a singular admixture of profound investigation and fanciful mysticism.—Ed. Med. Journ. v. xii. p. 385 et seq. We have also interesting sketch of the progress of the science by *Cuvier*; Hist. Scien. Nat. t. i. p. 311—344, and t. iv. p. 230-344.

† I may refer my readers for an interesting account of the progress of pathology, since the commencement of the present century, to a series of papers in the Archives Générales de Médecine, by *M. Dezeimeris*, t. xxix. et seq. The "Dissertation" of *Professor Alison*, appended to the "Cyclopædia of Practical Medicine," contains an admirable view of the state of medical science generally during this period.

* In speaking of the practical writers of Germany, it would be unjust to omit the name of *Frank*, and not to acknowledge the obligation which he has conferred upon medical science. Among the pathologists, *Hartmann* of Vienna and *Conradi* of Gottingen are perhaps the best known in this country.

attention to them, have tended both to diffuse and to increase our knowledge on these subjects. It is, however, very much to be regretted that so valuable a mode of communication should, in too many instances, be used as the medium of personal animosity, and that what ought to be employed for the promotion of the welfare of mankind, should become a vehicle of the basest and the most malignant passions. On this point, as well as on the one referred to above, justice compels me to state that the French metropolis offers us an example by which we might profit, in the number, extent, and general character of its medical periodicals, and the same sentiment leads me to remark, that the medical periodicals of London are decidedly excelled by those of Edinburgh and Dublin. Among the published transactions of medical societies, the Medico-Chirurgical may fairly be selected for our approbation; these, in the short space of about twenty-four years, have amounted to eighteen volumes and have acquired a character which is too well established to require recommendation or sanction.

In connection with their transactions I may mention the effect of the societies themselves, which, when they are confined to subjects of medical science, must be highly beneficial. Perhaps no single institution has contributed more to the improvement of our profession than the Edinburgh Medical Society, which, for so long a period, has maintained a reputation that reflects the greatest credit, not merely on its members, but even on the university to which it is attached. It is, indeed, a remarkable and an honourable circumstance, that an association, principally composed of students and entirely conducted by them, should have proceeded for above half a century in so uniform a course of respectability; that during this period they should have admitted of free discussion, without deviating into licentiousness, and that amidst fluctuations to which such an association must necessarily be subject, successors have at all times been found able to direct its progress and qualified to support its reputation.

Another circumstance to which I must briefly advert, which is both the cause and the consequence of the progress of our art, is the improved state of medical schools of all descriptions, both those attached to universities or to public hospitals, and those conducted by private individuals. By a very singular anomaly it has happened, that in this country, the highest medical honours have been hitherto conferred by those bodies, who did not profess to give the requisite means for their attainment. This circumstance may, indeed, in one point of view be regarded as paying the highest compliment to the English universities; but I believe that a very general sentiment now prevails among their most respectable members that this anomaly ought no longer to be suffered to exist, and that medical honours ought to be bestowed upon those, and those only, who have gone through what may be considered a sufficient course of preparatory studies, and who are able to give satisfactory proof that they have taken the due advantage of the means of improvement presented to them. But whatever may have been wanting in the English universities has been long supplied by that of Edinburgh, and, at a later period, by those of Glasgow and Dublin. The great London hospitals and some of the private schools, especially those of anatomy, have, for a number of years, possessed teachers of the highest talents and most admirably qualified for their office; but our metropolis could not be said to hold out the means of a complete medical education previous to the establishment of the London University and the King's College. These rival schools, rivals as I trust they will always be only in the talents of their professors and the excellence of their arrangements, have each of them laid down an academical course of medical instruction, which appears to be complete in all its parts, and which must have the most salutary influence on the character and qualifications of the future members of the profession.

The perusal of the foregoing passages may, I hope, enable my readers to form a tolerably accurate conception of the progress of practical medicine, of the obstacles which it has had to encounter, of the degree in which it has overcome these obstacles, and of its present state of improvement. This I am not disposed to underrate; but at the same time I must acknowledge, that when I reflect upon the immense mass which has been written on the subject, the result seems scarcely adequate to the labour that has been bestowed. I may, therefore, be pardoned if I offer a very few remarks on the means by which, as it appears to me, the object in view might be more effectually attained.

This, I conceive, should be attempted precisely upon the same plan as in other departments of science:—in the first place, by a more careful exposition of facts; and, secondly, by a more careful generalization of them. In medicine there are various circumstances which render it less easy to ascertain the facts than in most other cases. These depend partly on the nature of the subject, and partly on the situation and character of the observer. It was the shrewd remark of a learned professor that in medicine there are more false facts than false opinions. On all topics, either historical, scientific, or literary, mankind possess a strong avidity for the marvellous. From the constitution of the human mind, the love of novelty is one great principle by which the attention is excited and the intellectual powers are called into action. Hence, in a rude state of society, nearly the whole art of medicine consists in the dexterous employment of this agent, and hence it is still found the most effectual method of attracting the notice of the multitude, who are incapable of close reasoning or calm investigation.

Perhaps one of the most easy and at the same time the most effective means of counteracting this mischievous influence, would be never to receive the evidence for any medical facts upon the authority of a single individual. They should, if possible, emanate

from associated bodies, either from public hospitals, medical schools, or societies, the officers of which may afford their united testimony to the alleged facts. Another point which appears to me of vital importance, and which bears essentially upon every department of medicine, is that nothing should be received without the name of the author. The custom of anonymous writing, which has of late increased to so great an extent, has produced the most unhappy effects, both on the state of medical science and of the character of its professors; it has given rise to a degraded and depraved taste, no less at variance with honor and honesty, than with the spirit of scientific research. I will venture to assert that no man ought to publish any statement or any opinion to which he would scruple to attach his name. It may occasionally happen that an individual of a timid or a modest disposition may, by this restriction, be deterred from detecting an error or controverting a train of false reasoning, but the loss which might by these means be incurred would be amply repaid by the greater authenticity and the greater correctness of our medical publications.

With respect to the second suggestion, the more accurate generalization of facts, when the facts themselves are fully substantiated this must be accomplished by the due exercise of judgment and sagacity, and can scarcely be directed by any general rules. I may remark, however, that one obvious mode of attaining this end is to arrange our insulated facts, as much as possible, in the form of statistical tables, by which we may readily observe their connection with, or relation to, each other, and may thus be prevented from forming a hasty or unauthorized conclusion, derived merely from single cases or individual observations.

Another important means of obtaining the object in view is to preserve great precision in the use of technical and scientific terms. How many controversies have occupied the mind for ages, and have filled almost innumerable volumes, which have essentially turned upon the definition of a word? How frequently have remedies been prescribed, not for the symptoms, but for the name of a disease? How frequently has an article of the materia medica been employed, not from an experience of its actual effects, but from some nominal property assigned to it by an imperfect analogy or imaginary quality? The means that have been proposed to check these aberrations, to rectify the above-mentioned errors, and to reduce medical science to its appropriate and correct limits, are indeed few and simple, and not of difficult application. But there is one essential requisite, without which they can be of no avail,—a mind disposed to the reception of truth, determined to follow it wherever it may lead the inquirer, united to a high sense of moral obligation, which may induce the medical practitioner to bear in mind that his profession is a deposit placed in his hands for the benefit of mankind, and he incurs an awful degree of moral responsibility who abuses this sacred trust, or diverts it to a base or selfish purpose.

ON THE MEDICINAL PROPERTIES OF CREOSOTE.

By John Elliotson, M.D., F.R.S,
President of R. M. C. Society.

Read 24th February, 1835,
At the Opening of the Society's Apartments in Berner's Street.

In my work upon the diseases of the heart*, I began by stating that I conceived practical medicine was to be perfected by improvements in our knowledge of the nature of diseases, obtained through the cultivation of anatomy and physiology, and of morbid anatomy and morbid physiology; by improvements in diagnosis; and by improvements in our acquaintance with remedies and their application. With respect to the third mode, I expressed my belief that "much remains to be accomplished in the discovery both of the virtues of medicines already in use, and of new medicines or such modifications of old ones as almost entitle them to the epithet new. Every advance in our knowledge of the essential nature of disease will no doubt enable us to improve our application of remedies upon general principles, and to improve our general indications. But, without any additional knowledge of the nature of diseases, cautious trial, guided by the best analogy we may discern, or by some fortuitous occurrence, will enable us, if we are disposed to labour, to effect much in extending our knowledge of the powers of particular remedies over particular diseases. Lord Bacon regrets that physicians apply themselves so exclusively to general indications, neglecting the peculiar properties of remedies in particular diseases. '*Medici, hujusce ætatis*,' he says, '*licet generales intentiones curationum non male persequantur, particulares tamen medicinas quæ ad curationes morborum singularum proprietate quadam spectant, aut non bene norunt, aut non religiose observant.*' He remarks that they merely go on in their prescriptions, '*addendo, et demendo, et mutando, circa medicinas, pro ut iis libitum fuerit, et fere pharmacopœorum more, quid pro quo substituendo*'; and he advises that some physicians '*et eruditione et practica insignes, opus aliquod conficiant de medicinis probatis et experimentalibus ad morbos particulares.*'"†

On every occasion that I have laid the results of my enquiries into the properties of medicines formally before the public, (and with one exception it has always been by means of this Society,) I have carefully detailed the circumstances by which I was led,—sometimes information supplied by others, sometimes an accidental fact, and sometimes a fancied analogy. This I shall do at present.

* On the Recent Improvements in the Art of distinguishing the various Diseases of the Heart. Folio, with copper-plates. 1830.

† Instauratio Magna. First Part.

In the early part of last year, I found that M. Reichenback had discovered a new principle in pyroligneous acid and all the tars, called Creosote by him from its property of preserving animal matter, and said to cure a variety of diseases. Having learnt the doses in which it was administered, I commenced a trial with it, in the beginning of July, at St. Thomas's Hospital, in cases of two diseases, which, being among the chief opprobria medicorum justify any new attempt at cure that is not dangerous or absurd. The diseases I selected were phthisis and epilepsy. The medicine proved stimulating; and, if the first dose exceeded two or three drops, nausea, vomiting, vertigo, headache, and heat of the head, were generally the consequence: although, if the dose was at first only one or two drops, many patients bore a gradual increase of it to six, and some to ten, twenty, or even more, without unpleasant effect. As is observed with all powerful remedies, a very minute dose only can be borne by some persons. I have known individuals not bear more than a fraction of a drop of Scheele's prussic acid or of Whitlaw's tincture of lobelia inflata, or the fraction of a grain of the hydriodate of potass. Accordingly, I have known some patients not bear more than a fraction of a drop of Creosote. On the other hand, as a few persons will bear and even require a gradual augmentation of the dose of Scheele's prussic acid fℨss,—of Whitlaw's tincture of lobelia, inflata, to upwards of fℨss,i—and of hydriodate of patass to upwards of ℨss,—so I knew a lady steadily augment her dose of Creosote to forty drops, before it disagreed: the addition of a single drop beyond this produced extreme giddiness, insensibility, and vomiting, followed by headache for several days. I found it much more likely to disagree if not well diluted; though, the longer it is given, the less dilution frequently is necessary. At first, every drop usually requires about half an ounce of water; and few persons can take many drops in much less than half a pint, without experiencing at least considerable heat, in the tongue especially, and in the pharynx, œsophagus, and stomach. I have always suspended it in the water by first mixing it with a little mucilage. My trials with it internally in phthisis were perfectly unsuccessful. I have since made many phthisical patients breathe for four or five minutes, four or five times a day, through a mixture of it with mucilage and water, but not with further effect in general than occasionally an increased facility of respiration, and a diminution of the cough and expectoration. I put one drop into rather less than a pint of cold water, and add one drop every time it is employed, in order to maintain the strength of the liquid, till this appears growing too strong; and then the patients inhale without adding any, till the liquid, appears growing weak again. Some it always appears to irritate, and all in whom any degree of inflammation exists. I am satisfied that it is no remedy for tubercles. Where, however, only a single ulcer, or but a small number, exist in the lungs, and there is no disposition to farther tubercular formation, it is very beneficial. One young gentleman, with a large solitary cavity in his left lung, has completely recovered, and not the slightest morbid condition is discoverable by the ear. In bronchorrhœa, or that state of the bronchial mucous membrane which consits in a profuse secretion without inflammation, I have seen its inhalation of essential service. In one instance of this affection, in which the expectoration was extremely offensive, the cure was very rapid. In asthma, also, dependent upon morbid excitability of the bronchial membrane, its inhalation is often useful. Even where it agrees perfectly well, the inhalation frequently induces a heat of the tip of the tongue.

The other disease which I had selected originally for a trial of the remedy, appeared in some instances a little under its control; a few epileptic patients for a time had milder fits, and at longer intervals. But, except in one or two instances, the disease returned with its former severity, or was uninfluenced altogether: occasionally, I think I saw it aggravated. All this was too expected when we consider the infinite variety of the causes of epilepsy and irremediable nature of many. The tranquillizing effect, however, of Creosote in some instances of this nervous disease, encouraged me to exhibit it in neuralgia, hysteria, and that general morbid excitability which is sometimes denominated extreme nervousness.

The first case of neuralgia, or what appeared so, occurred in a girl, 12 years of age, who, after the influenza a year previously, had gradually become so costive, as to have an evacuation but once in three or four days, and then with great pain. In this condition she was suddenly seized with spasms in the abdomen, twitchings in the legs and arms, and extreme agony in the lowest part of the abdomen and pelvis. An attack of this kind frequently recurred, and at length came on every morning about 7 or 8 o'clock and lasted till night, when she fell into a comatose state till towards morning. The pain was such that she constantly sat moving backwards and forwards, wringing her hands, or pressing the lowest part of her abdomen; her face was expressive of intense suffering, and she was much reduced. At the time of her admission into the hospital she had made water but once in twenty-four hours for the last three months, the abdomen was very tense, though but little swollen, and gave a hollow sound on percussion. The urine and alvine discharge were of a healthy character, and the bladder on sounding gave no indication of disease. Every known medicine likely to prove beneficial had been exhibited in the country. She was one of the most distressing objects I ever beheld, and I utterly despaired of any improvement. Three grains of muriate of morphia every morning perhaps alleviated her sufferings; but so little that I discontinued it. On the 22nd of July, I ordered a drop of Creosote to be taken three times a-day, and the dose was gradually increased to seven. She began to improve rapidly, and left the hospital perfectly well in a month from the commencement of its use; and in the mean time she had regained

her flesh and every appearance of perfect health.

The next case was one of neuralgia of the posterior dental and nasal twigs of the superior maxillary nerve; the pain was of that dreadful kind which we so often witness, causing great contortions of the countenance, and had existed three months. The man had been affected in a similar way three years previously, and had recovered without medical aid. He began the use of the Creosote in doses of three minims three times a day on the 22d of August; on the 28th he was taking doses of six minims, and for the first time was better. The attacks, which had hitherto come on every five or six minutes during the day, and seriously interrupted his sleep, had become less frequent, and he had slept the previous night more than he had done for two months. He steadily improved, the Creosote having been slowly increased to eighteen minims, and on the 28th of August he was so well and happy that he would have left the hospital but for a slight cough. He had no relapse during his stay.

I have had two other cases of this severe form of neuralgia occurring in the thumb or fingers, in which the remedy, after an exhibition of many weeks, had nearly subdued the complaint at the time I last heard from the patients. The medicine appears therefore to be one of those which are remedies in neuralgia. But, like them all, it will frequently fail, and I have frequently known it fail; for neuralgia, like epilepsy and paralysis, depends upon many causes, and these must require various modes of treatment, and be in their nature sometimes uncontrollable. In rheumatic neuralgia, not inflammatory, I imagine it is, that Creosote is the most successful. In that morbid tenderness of the surface of the body which appears so nearly allied to neuralgia, and which so often occurs in females, I have not seen it of any use. In common hysteria, unconnected with inflammatory condition of any part, I have often seen it considerably lessen the disease; the more rare and strange forms of hysteria have yielded to it; and the morbid excitability of those who are called nervous persons, I have frequently seen abated by it in a remarkable manner. In the latter description of persons, however, it is better to begin with no more than half a drop, as occasionally more at first produces excitement of the head. Palpitation, depending upon mere morbid excitability of the heart, has yielded to it far more than to other remedies.

While I was trying Creosote in phthisis and epilepsy, Asiatic cholera* became epidemic in London; and, not being satisfied with any mode of treating that disease, I requested that, if any of my patients at St. Thomas's were seized with it, Creosote might be given them. Two cases occurred, and Creosote was given with the effect of immedi-

* The disease appears to have obtained this absurd name from the sudden appearance of vomiting, purging, and spasms in it, just as in true *cholera;* the totally different nature of the matter discharged, and the various peculiarities which show it to be a specific disease and not a merely inordinate natural secretion, being overlooked. But as it entirely suppresses the bile, and also is a specific affection, we surely should no longer call it *bile-flow*, and should give it a distinct appellation. Even the term leucorrhœa would be far more appropriate than cholera, which signifies the very opposite to fact; but this term is already engaged. *Acholia* (nulla bilis) is a good Greek word, and harmonizes with a characteristic fact. *Asiatic acholia* might be thought still more designative.

Perhaps I may be allowed this opportunity for expressing my regret that, without some resolution, the absurd name—*apoplexy of the lung*, and, as I fancy, the illegitimate name—*pneumothorax*, will be established.

The lungs can no more be affected with apoplexy than with dyspepsia. Apoplexy is a loss of all sense and voluntary motion,—a suspension of the functions of the brain. This may arise from debility, poisons, pressure by bone, serum, or blood, &c. But, because, in fatal cases of the disease, we sometimes find that congestion and effusion of blood have been the source of the *symptoms* called apoplexy, circumscribed congestions and effusions of blood in the lungs have been strangely termed apoplexy. The condition appears in all respects so exactly what we call ecchymosis, if near the surface of the body or in membranes, that, rather than coin a new name, I would term it ecchymosis of the lungs.

Instead of pneumo-thorax, we should, I conceive, say pneumato-thorax. Because substantives, not derived from, but *composed* of a *substantive*, prefixed to another *existing noun*, there being no action between the things, or government or agreement between the words, are always made from the dative of the first (its final letter or diphthong being usually changed to *o*, if there is another vowel) prefixed to the nominative of the second noun. Thus we say, varico-cele, sarco-cele, hepato-cystic, gastro-enteritis, hæmato-cele. and, what most strike forcibly, pneumat-omphalos, and actually pneumato-cele: because the genitive of varix is varicis, of σὰρξ σαρχὸς, of hepar heyatis; of γαστὴρ γαστρὸς, of αἷμα αἵματος, of πνεῦμα πνεμάτος, and the dative is correspondent. We say also, cerebro-spinal, aeri-form, and hydero-contracted to hydro-thorax, &c. from ὕδερος, dropsy. Even where there is action or government between the two, this rule is often followed; as in pectoriloquy, utero-gestation. If hæmorrhagia is adduced as an exception, I reply that it is not composed of two existing substantives, because there is no such substantive as ragia, but that it is *derived* from the verb αἱμορ᾽ῥαγέω. Βούγλωσσον, the herb bugless, is no exception, for there is no such substantive as γλωσσον. It is *derived* from βοῦς and γλῶσσα. If it is contended that hydrophobia, hydro-mel, &c., are exceptions, and come from ὕδωρ, I answer that they come from ὕδορει, the unemployed dative of ὕδωρ, which borrows its established dative υδατι from its unemployed root ὕδας.

M. Chaussier has given the new name of pneumo-gastric (for lung-gastric) to the eighth pair of nerves. If this were correct, pneumo-thorax should mean lung in the thorax. But the genitive of πνέυμων πνευμόνος, and the name should therefore be pneumono-gastric.

diately arresting the vomiting; but the patients died. The fact, however, of the vomiting being subdued, led me to ascertain whether Creosote was a remedy or not for vomiting. An abundance of opportunities soon presented themselves, and its extraordinary power of arresting vomiting, when not dependent upon inflammation or structural disease of the organ, I consider perfectly established. When inflammation of the organ exists, the stimulant power of the medicine must do harm, and more than counterbalance its soothing properties. Where structural disease exists in the stomach, the diseased surface may not bear such a stimulant except in the minutest quantity; and a minute quantity, even should it arrest the vomiting, is very likely to aggravate pain. Although some do not dislike it, and others who dislike it at first actually find it at length rather agreeable, a few are so disgusted with the smell of tar that they are made sick by any attempt to take Creosote: but, with these exceptions, I know of no medicine at all to be compared with it in arresting vomiting. I have repeatedly seen it succeed after the failure of prussic acid, which is the most powerful remedy I previously was acquainted with in subduing this action of the stomach. Different doses and different frequency of repetition are requisite to produce this effect in different instances. The dose may easily be too large or too small. More than two drops I have sometimes seen aggravate the sickness, and sometimes I have begun with three drops every three hours, and been obliged even to give more. One or two drops may be given every hour or half hour till the vomiting ceases; and, if a dose is rejected, it should be repeated immediately. The first dose frequently succeeds. I could detail fifty cases of vomiting in the practice of myself and friends, and both in public institutions and in private practice, illustrative of its extraordinary power in this respect. In colic and enteritis it arrests the vomiting long before the bowels are opened, and purgatives are thus retained which were all rejected previously to its exhibition. Even in a case of severe vomiting, apparently from arsenic, which usually excites inflammation of the stomach, I have known it succeed astonishingly, as well as in the only case of vomiting from pregnancy in which I have had an opportunity of trying it: and in sea sickness, in which, however, my experience of its power is yet limited, though a number of my friends have promised to take it abroad with them. Of course, as it subdues vomiting, its power is equally great over nausea. When *properly* given in nausea or vomiting, without inflammation or structural disease of the stomach, I have not yet known it fail, except in one remarkable case.—A boy, fourteen years of age, had for two years, instantly vomited whatever he took, without effort and without any diseased condition with which the occurrence could be connected. He was rather weak, thin, and pale, but otherwise in perfect health, except that he confessed being rather giddy and had a habit of knitting his brows,—symptoms which at length made me suspect that the cause was in his head. Creosote, as far as it was tried, failed in him, though given in doses of three drops, and repeated frequently, so frequently in one day as thirty times. I proposed augmenting the dose, but he was unhappy at being from home, and left the Hospital of the University*.

I was led to discover the power of prussic acid over vomiting, by witnessing its effects in gastrodynia, when given in mistake; analogy inducing me to fancy that, as it lessened pain of the stomach, it might lessen inordinate action†. When I was sure of the power of hydrocyanic acid in this particular, as well as over simple nausea, I hoped it might be equally serviceable in preventing nausea and vomiting from medicines calculated to disagree with the stomach; and one of the most useful properties of that acid is, when given simultaneously with, or, what is better, a quarter of an hour before, medicines which frequently disagree with the stomach, to enable the organ to bear them, in moderate doses at least, with impunity.

My discovery of the power of Creosote in preventing vomiting was not the result of reasoning. The medicine was given in cholera to see what it would do, and it arrested vomiting. When, however, I had ascertained this power, I was led, as in the case of prussic acid, to enquire whether it would, like that agent, prevent other medicines from exciting nausea and vomiting; and I find it, by daily experience, even to surpass prussic acid in this particular. I have enabled the stomach to bear hydriodate of potass, sulphate of copper, sulphate of iron, and many diuretics, &c., in much larger quantities than those previously rejected. Just as I have often seen it arrest vomiting, were prussic acid had failed, so I have seen it enable the stomach to bear medicines, when they had been rejected in spite of prussic acid.

Although I have sometimes seen mere gastrodynia unrelieved by it, and have found this symptom subdued perhaps more by prussic acid, numerous cases of general derangement of the stomach, liability to nausea or vomiting, acidity, pain, &c., often yield to it in a most remarkable manner. Where the chief or almost only symptom has been flatulence, I have occasionally seen this unrelieved or augmented. When gastrodynia or flatulence has been united with other symptoms of derangement of the stomach, I have combined prussic acid

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*I have seen but three cases of this description of vomiting,—cases in which the vomiting was chronic and not a symptom, but the disease. The first occurred in a girl, who had been long under treatment when she was brought to St. Thomas's. Prussic acid failed, and she was taken home before I could make further attempts to relieve her. The last case is now under my care: and is that of a young man who, though otherwise in perfect health, has vomited his breakfast invariably for five years. Upon close enquiry, I find he sometines experiences giddiness and pain of the temples. Creosote has hitherto failed in him.—Aug 14.

† Numerous Cases illustrative of the Efficacy of Hydrocyanic or Prussic Acid in Affections of the Stomach. 8vo. 1820.

and Creosote with great benefit. Indeed when either fails in dyspepsia, I should advise their union. Prussic acid has this advantage over Creosote, that it is admissible when a degree of inflammatory condition exists in derangement of the stomach, although it cannot directly control the inflammatory portion of the disease. A perseverance in a moderate employment of Creosote frequently restores the powers of the stomach in the most satisfactory manner, not only as tar-water undoubtedly does, but I should imagine very far better, since Creosote bears the same medicinal relation to tar that quinine does to cinchona.

Bishop Berkeley, in his answer to those who accused him of pretending to discover a panacea, replies that, to speak out, he freely owns that he suspects tar water is a panacea; and, as the old philosopher cried aloud, says he, from the house-top to his fellow citizens, *Educate your children*, so I confess, if I had a situation high enough, and a voice loud enough, I would cry out to all the valitudinarians upon earth, *Drink tar-water*. In thus extolling a remedy, he ruined it; and, as his enemies bitterly hinted that the lines of Pope,

> "Manners with candour are to Benson given,
> To Berkeley every virtue under heaven,"

were calculated really to ruin his character, so they urged that the extravagant praises bestowed by himself upon tar-water proved its worthlessness. Yet the experience of many with tar water, and my own with Creosote, satisfy me that, however absurd was the excellent and acute bishop's panegyric, he really had been surprised, as he says, to see persons, fallen away and languishing under a bad digestion, after a few weeks recover a good stomach, and with it flesh and strength, so as to seem renewed by the drinking of tar-water.

In regard to the bowels, it in general has no effect upon them, so that aperients are as requisite as if it was not taken. It sometimes augments the urine very much, and, if this is put into a bottle, it may be distinctly smelt in the fluid when the cork is withdrawn. I once saw it, in doses of a minim three times a day, cause micturition nine times in an hour. Three trials were made of it, but always with the same effect. The gentleman habitually made water nine times in the twenty-four hours. In another case in doses of three minims, it produced severe strangury. It appears in many respects to resemble the oil of turpentine.

In all these investigations I remained carefully ignorant of what others had said of the remedy, lest my mind should receive any prejudice; but I casually read an account of a case of diabetes cured by it, and resolved to ascertain whether the remedy really possessed any power over this affection.

On the 13th of August, I was requested to see a gentleman from the country, about sixty years of age, plethoric, with a full pulse: his mind was dull, and he had suffered two attacks of paralysis: his tongue was very yellow, and black at the centre towards the root. He told me his complaint was extreme thirst, so that he was drinking all day, and was enraged if drink were not taken to him the moment he called for it. He said he had been ill four or five years, was much worse always in autumn, much better in spring. He passed but four pints of urine, according to his own account, but confessed that he made water twelve times a day and three times in the night. I found it contain a large quantity of sugar. I ordered him Creosote. I saw him again on the 10th of September, when he was making water but six times in the day and once in the night. It contained scarcely any sugar; his tongue was clean, and he told me that he felt perfectly well in every respect. The qualities of the urine I could not ascertain.

On the 8th of November, a young medical gentleman, who had been labouring under diabetes for eight months, consulted Dr. Kerrison and myself. He had been in hot climates. He was making twenty-four pints of urine a day; it contained much sugar; its specific gravity was 1038; it was very frothy. Everything, he said, turned acid upon his stomach. He was exceedingly costive, and had been impotent for two years. We agreed that he should take Creosote. On the 25th of November, he called to say that his spirits were greatly improved, and his strength much increased: the change indeed, in his general health was surprising. The state of his urine I could not examine, nor have I heard of him since.

On the 19th of November, a gentleman aged about forty applied to me, who had laboured under diabetes for six months, and usually made about twelve pints of urine in twenty-four hours. It contained sugar, and its specific gravity was 1031. His skin was always moist. He took Creosote. On the 27th of November I saw him again, when his thirst was less, his health better. In December I saw him a third time: he had then no thirst, made but about three pints of urine in the twenty-four hours, and felt his general health surprisingly improved. The urine, however, though much less in quantity, was 2037. I have since heard that he is doing well.

The cases are very imperfect; but the disease is comparatively so rare, that I thought it worth while to relate them.

Such are the facts which have hitherto occurred to me in regard to Creosote. That it is applicable to certain diseases and certain forms of diseases only, is evident. But that, with due attention in its administration, it is an excellent remedy, must be equally evident; and it probably is applicable to many other cases than those to which I have been induced to apply it.

Of its external application I can speak favourably. When an ulcerated surface has required a stimulus, or when a slough, or unhealthy, perhaps offensive, discharge existed, I, like others, have seen it of great utility. As it prevents or arrests putrefaction, and

removes all taint in dead matter, we cannot be surprised at its removing the offensive nature of discharges, whether from mucous membranes or ulcers, and preventing the injurious effects of diseased animal matter upon the part with which it is in contact. When the contents of the intestines have been very offensive, I have impregnated clysters with it advantageously; and I have employed it as a wash in mercurial fœtor as well as ulceration, and in fœtor of various parts of the system. I have seen foul ulcers become clean, and ulcers of long standing have sometimes healed rapidly on its application. Its agency in vomica and bronchorrhœa is clearly the same as in its external application. Wherever tar is useful, it may be equally so. In two cases of pruritus podicis it lessened the distress considerably after every thing else had failed. Here it was applied pure, as in cases of tooth ache, which it often at once removes. But usually from half a drop to two or three, diffused by mucilage in an ounce of water, is sufficient, though its application must be very frequent. It appears to have been sometimes useful in porrigo, employed pure or variously diluted.

P. S, August. It is now a year since I began my trials of Creosote,—the period to which my trials of every other remedy extended before I communicated my results to the profession; and my experience, subsequent to my paper being read in the Society, confirms every thing I advanced both negatively and positively. Its extraordinary power over nausea and vomiting, and dyspepsia, I have witnessed in at least fifty more cases, in which the stomachwas neither inflamed nor diseased in its structure; a case of severe hiccup has at once yielded to it. I have prescribed it in a fourth case of diabetes, and am able to give a further history of the three already mentioned, but which warranted no conclusion as to the curative powers of the remedy. Although all the three found their health improved, I stated that the specific gravity of the urine of two was unaltered. The last of the three appears to have neglected his medicine, to have gone abroad, and consulted many persons; and he died, Dr. Kerrison informs me, two months ago, but under what circumstances we are ignorant. The second I saw months since, not at all worse, but not farther improved, his urine being of the same specific gravity. The first I saw six weeks back, and he complained again of thirst and frequent micturition, but his appearance was not worse; indeed it was very good. I had no means of ascertaining the quantity or specific gravity of his urine. In none was the dose pushed very far. The fourth case is now under treatment in the North London Hospital. The patient is a young man, and takes eighteen drops of Creosote three times a day. He has had a large abscess in the loins, and one of his lungs is ulcerated; but his urine is reduced from thirteen to seven pints, and his health is improved. The specific gravity of his urine is reduced. It was 1037 at his admission above three months ago; it is now 1030. It is remarkable that he took his twenty-two drops of Creosote in only an ounce of water, so that it burnt the mouth of every body else who tasted it. On my learning this, I begged him to take it well diluted, and it instantly produced vertigo and headache. The dose is now twenty, and agrees perfectly, though diluted with only an ounce of water.

Tar-water was celebrated in chronic diseases of the skin. In a case of severe acne indurata, which had lasted some years in spite of all treatment, a perseverance of six months with Creosote accomplished all but a cure; and the face still remains in the state of improvement which was effected. In a chronic pustular disease, not remediable by antiphlogistic measures, I certainly never saw such good from any medicine before. The woman began the remedy in November. Her urine became black in February, and remained so for a short time. I was not informed of the circumstance till after it had ceased, and did not see the urine; and I understand that other patients taking the remedy in the hospital have occasionally experienced the same effect for a short time. Some private patients have described the colour of the urine as green.

But I am anxious to mention its effect in two cases of chronic glanders, affecting one nostril and the frontal sinuses with pain and a copious and fœtid discharge. The disease in the two persons was clearly contracted from glandered horse, and I purpose doing myself the honour of laying the facts before the Society early next session, as I never read of or met with an instance like these in the human subject; former cases having been acute glanders, or chronic farcy. The sedulous injection of a week solution of Creosote up the nostril, removed the whole of the symptoms, after a very few weeks, and I hear the patients are still well. I need not say that the disease has always hitherto proved fatal in the horse.—*Medico Chirurg. Transact.* 1835.

A RELATION OF SOME CASES

OF

MENTAL DERANGEMENT,

Successfully Treated by the

ACETATE OF MORPHIA,

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It has been observed by many persons accustomed to the investigation of the bodies of maniacal patients after death, that the proportion in which appreciable organic disease is found is very small, compared with those cases in which no distinct alteration can be discovered in the substance of the brain, its membranes, or its vessels; and that orga-

nic disease of the brain has been seen to exist to the greatest extent without necessarily impairing the functions of the mind.

Physicians have long since discovered, that inflammatory action, either acute or modified, which has long been looked to as the universal agent in the production of disease in other parts of the body, has rarely any thing to do wth the perverted perceptions and deranged appetites of the lunatic. To each of the great systems which maintain the body in health, peculiar functions are allotted, and the alterations of these functions constitute the peculiar diseases of such system. All are liable to inflammation, but the muscular system is provided with the peculiar function of contractility, which may be simply destroyed, as by the poison of lead, or greatly increased by employment and action, while the peculiar inherent qualities of the brain, perception and volition, may likewise be destroyed, diminished, or increased, and augmented beyond measure. The feeling transmitted by the sense of touch may be infinitely magnified or may not be perceived by the brain at all, and a series of hurried and irregular actions may be the result of the hasty manner in which volition is exercised.

Physicians, in treating mental diseases by blood-letting, were perhaps biassed by the observation of the peculiar structure of the veins of that organ, rendering stagnation of blood, consequent on any obstacle being presented to the return of the vital fluid to the right side of the heart, of frequent occurrence, and also from the prevalence of apoplexy, which has been more generally attributed to determinations of blood to that organ than to its true causes,—increased thickness of the left ventricle of the heart, and diminution of the elasticity of the smaller arteries of the brain by deposition of bone in their coats.

Experience has shewn that blood-letting in maniacal cases, unconnected with disease of other organs than the brain, is seldom attended with good effect, and of late years the soothing system has very generally been adopted by medical men, and founded as it is on true principles of pathology, is more likely to lead to success than any other. To diminish the increased and morbidly acute perceptions, and to effect a decrease in the sensibility of the organ, and to reduce the exaggeration of its natural functions, seems to be the great object ; and so far from such a condition being always the result of too great a flow of blood to the head, morbidly stimulating the organ, it often occurs in those who have rather less blood than usual for the maintenance of life in the brain, occasioned by excessive evacuations, watching, anxiety, and bad living.

About three years ago I published some lectures on this subject, in which I spoke of the great advantage which had been derived at the large Lunatic Establishment on Bethnal Green, by the use of the preparations of morphia, under the care of Messrs. Beverley and Phillips, the superintendant and resident surgeon. Several cases have since occurred to me in private, in which the advantage of this practice has been so evident that I lay it before the Society, with the hope that in other hands it may be more extensively useful.

A lady, aged about forty-eight, was attacked in the month of August, 1833, (after exposure to severe distress by the death of a relation who expired in her presence,) with mental derangement. Her usual habits of thinking were those of great deliberation ; she had lived much in society, and from her station, mixed much with the world, nor had there at any time been any, even the slightest, indication of eccentricity or weakness of mind. Her mind was, at the time I saw her, filled with gloomy ideas; imaginary neglect of great and solemn duties, and a belief of having committed indescribable and even ill-defined crimes, constituted the principal features of her malady. Her bodily health was unusually robust, and she had scarcely ever suffered even from trifling bodily ailments. In the first instance the patient was bled, and took repeated doses of purgative medicine, but without any beneficial effect. The pulse was not weak ; the nights were sleepless, and there was constant watchfulness present; there was no pain in the head, but a sense of weight was described, and there was restlessness of the body always present, so that the patient would often endeavour to jump out of bed and run about the room. During an unavoidable absence from London, the patient was seen by my friend Dr. Southey, and she was kept under nauseating doses of tartar emetic without any satisfactory result*.

It was now resolved to try the morphia, and a grain of the acetate was ordered to be taken every night, the bowels to be kept open by small doses of castor oil ; the severity of the symptoms became greatly diminished, and it occurred to me that the sedative effect of cold would greatly assist the operation of the remedy. Ice was therefore kept to the head in a bladder, day and night. The morphia never failed to procure a good night, and thus by degrees, without any other remedy, except those mentioned, the mind cleared up. The use of ice was gradually abandoned, but the morphia continued to be administered every night during three months, although all trace of insanity had disappeared six weeks from the commencement of the employment of the remedies, during ten days of which the ice was kept constantly to the head. No relapse whatever has occurred in this patient.

CASE II.

A married lady, æt. about 34, the mother of several children, was attacked in October, 1833, on her journey to London, with maniacal derangement. I saw her first at about fifty miles from London, and the history of the attack was very confused. She had overexerted herself previous to leaving a distant

* The patient was also twice seen, when in a state of progressive improvement, by Sir H. Halford.

part of the country, and at this time the catamenia were present. They were, as it was reported, suddenly checked. She had been ill some days; and there prevailed an idea in the minds of her medical attendants that there had been inflammation of the lungs. She had been purged, bled, and blistered; the blood did not shew the inflammatory coat, and notwithstanding the evacuations her mind continued estranged; the prevalent idea being fear of some object near her, or of some serious accident having happened to those she most loved.

She was ordered half a grain of acetate of morphia immediately, to be repeated the same night. Great relief was experienced by sleep; but the remedy was not repeated, and I was obliged to leave the patient, after seeing her once only.

About a fortnight from this time, the patient was removed to London and placed under my care. The mind was seriously affected, the patient was violent, and her imagination strangely disordered. She fancied her children were murdered, and their spirits returned to torment her, and that some similar evil menaced her husband. Her sleep was broken, and her conversation incoherent. The pulse was 100, and not strong. The tongue white, but not loaded; there was no fever, but occasional flushing of the face. The catamenia had returned at the usual period. A grain of the acetate of morphia was ordered every night at bed-time, in the following draught:—

R. Acet. morph. gr. j.
Acet. distillat *m* vj.
Misce et adde
Aquæ cinnamomi,
Aquæ fontan. aa ʒ vj.
Tinct. Card. comp. ʒ j. Misce.
Ft. Haustus omni nocte sumend

Ice was also directed to be applied in a bladder to the head, and the bowels were kept open every alternate morning, with either castor oil, or as much sulphate of magnesia in infus. sennæ, as would produce two dejections.

In three weeks from this time, I had the satisfaction of seeing the patient begin to recover. Her restoration to sanity was very gradual, and she required quiet during several months, but no perverted imagination was perceived during this period. No other treatment was adopted, with one exception, which is worthy of observation, as showing the different effects of morphia and opium in the same constitution, and the same disease.

When the patient was advancing towards convalescence, she was anxious to take an opiate draught, which had formerly been prescribed for her after her confinements, and from which she had derived much comfort, instead of the draught containing the morphia, and she was indulged in her desire; but the effects were widely different, the night was restless, and she awoke in great alarm, her tongue was furred, her head ached. Her imaginary misfortunes and crimes returned, and it was not until she had repeated the morphia for several nights that she regained the state of comparative quiet which terminated in recovery*.

There has been no relapse in this case.

CASE III.

I was desired in August last to see a lady under the following circumstances. She had borne a child about six months previously, at a time when she was in great affliction by the desertion of her husband and pecuniary distress. Her confinement was followed by mental derangement, and when I saw her she was in a state of imbecility, unconscious of all which passed around. Aroused occasionally by the importunities of those who watched her, she uttered a short, quick cry and relapsed into her usual state. Her fæces and urine were passed all unconsciously. The skin was cold, the pulse feeble, she never seemed to feel pain, nor did her hand wander to her head as if any painful affection of the brain existed.

I ordered her the acetate of morphia in the dose of a grain every night, and half an ounce of castor oil every alternate morning. In a week a slight amelioration of symptoms occurred, and at the expiration of a month she was manifestly conscious of my presence, took food of her own accord, and had been seen to open a book, and appeared to peruse it during some short time.

The recovery was now gradually progressing: at the expiration of the month of September she could understand every thing said to her, she was quite conscious of the calls of nature, she wrote a coherent and sensible letter, was enabled to see her friends, her child, and to converse on her own prospects. Her mind is now feeble, though not insane; she works, reads, and plays on the pianoforte, but does not appear to be capable of any considerable bodily or mental exertion. She still continues to take the morphia, and has done so uninterruptedly during four months†.

I will not detain the Society by more examples of the utility of this medicine in diseases of the mind, although I have seen several of a more chronic form experience great relief from its employment.

It appears to have been of more use in what is termed melancholia, where the mind is tortured by imaginary want, ruin, or crime, than where the derangement partakes of more brilliant ideas, as of super-human knowledge, dexterity, or wisdom; or in those cases in which one single idea occupies and absorbs the mental powers.—*Medico Chirurg. Transact. for* 1835.

13, Charles, Street Berkeley,
Square, Dec. 20th, 1834.

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* In this case I had the pleasure, on one occasion, of meeting Mr. Stone.

† Since this paper was read before the Society, I have learned that no trace exists in this case of the malady under which the patient laboured; she resides in the country, and is in perfect health.

CHRONIC DYSENTERY, CURED, CONTRACTED AT RIO JANEIRO—EIGHT WEEK'S DURATION—TREATMENT—CUPS AND LEECHES TO ANUS, AND DIET, WITH OPIATES—RELIEVED BY ACETATE OF LEAD AND CALOMEL.

Robert—, æt. 36. seaman, born in Massachusetts, admitted November 5th, 1834. Is a seaman for the last fifteen years, during which time he has been chiefly engaged in European voyages, and has been three times to South America. He had been but once sick, four years since at Baltimore, with cephalalgia, from vomiting and purging; the attack lasted only eight days. Sailed in June for Rio Janeiro, was perfectly well on the outward voyage, and for three weeks after his arrival there, when he was exposed to the rain at night for several hours, in an open boat. Next day had a chill, lasting an hour or two, the chills recurred every day, a little before noon, during a fortnight; he was then cured by bark, &c. remained nearly well, but still feeble, and with slight diarrhœa for a week, when he ate a quantity of oranges and green fruit; he was then taken with griping, and had more frequent discharges. When he left Rio he had six or eight stools a day, sometimes none. After being at sea a week or ten days, the stools recurred every hour, or every half hour, especially at night. Sometimes the stools looked like jelly; they were mixed with blood when he strained hard, and sometimes contained shreds of a whitish substance. Much pain was felt after the evacuation, like a knife passing through the bowels; sometimes tenesmus, and always after eating there was an increase in the frequency and quantity of the discharges. The only article of aliment he ever recognised in his stools was bread; (doubtful.) Appetite voracious; food, salt beef, shipbread and coffee; the desire of food returned very soon after eating; thirst not greater than in health; urine abundant; no pain in back until entrance; no return of chills; no cough; strength sufficient to work in good weather, but could not go aloft; feebleness gradually increasing; œdema of the legs twenty days before his arrival, sometimes furuncles in different parts of them.

At his entrance ten stools in twenty-four hours; pulse 96; skin dry, rather hot; pain across the abdomen, near the umbilicus. Twenty leeches applied around the anus on the 8th; cups to the abdomen on the 7th, followed by another application of leeches to the anus. R. Opii. gr. j. ft. pil. one every six hours. Diet, one cream of rice night and morning; four biscuits with a little butter. Drinks to consist of an infusion of the bark of the Ulmus Americana. Some increase of diarrhœa on the 10th; not less than twenty dejections daily from 10th to 16th; on the 12th a grain of ipecacuanha was added to each of the opium pills. On the morning of the 15th, took, R. Calomel, gr. j.; acet. plumbi. gr. ij. quotidie; the opium and ipecacuanha continued.

Detailed note, November 16th, 3 P. M.—Hair black; conjunctivæ and skin slightly yellow; moderate emaciation; intelligence perfect; no cephalalgia; no dizziness nor ringing in the ears; no sleep had until last night; feeble but can still walk about the room; tongue smooth and shining; papillæ not visible; soreness of throat; appetite perfectly good; could eat meat; four stools in the last twenty-four hours; thirty on the day before; they are now brown, less liquid than on the preceding days, when they looked like weak coffee; abdomen slightly tympanitic; some soreness above the umbilicus; no tumour nor hardness in any part; a little griping still felt before going to stool; skin warm, moderately dry; pulse 84, small and quick; respiration natural, twenty per minute; no cough. Continue pills of opium and ipecacuanha; suspend the calomel and acetate of lead. Diet as before directed.

On the 20th, two dejections in twenty-four hours; only one in the preceding thirty-six. Pulse 68, regular; no pain in abdomen. On the 17th he was taken with pain in the abdomen above the umbilicus, the sensation resembling strong contraction of the bowels. Fomentations of hops and opium were applied to the abdomen, and an oleaginous mixture directed. The pain ceased the day after its occurrence.

No return of the pain or fever occurred from the 20th of November to the 25th of December, when he had four liquid discharges without griping. Diet increased on the 12th of December to two mutton chops, and soup. The opium and ipecacuanha were still given, three grains of each in the day. The appetite was good; embonpoint restored. The diarrhœa ceased again on the 28th of December. No further complaints, except of pains in the knee, which returned at intervals, until his discharge.

February 2d.—Discharged well. Skin a little yellowish; dejections once or twice daily, pultaceous, but never liquid; appetite good. Respiration natural. Pulse 80, regular.

Remarks—At the entrance of this patient the treatment was retricted to diet rigidly enforced, topical depletion, and opium. This treatment, which very often has an almost magical success, was not of much advantage. Ipecacuanha was combined with the opium, but the discharges were not arrested until the use of the acetate of lead and calomel. The effect of the latter combination was so immediate that no doubts could remain as to its influence in arresting the discharges which did not again become frequent when the remedy was suspended. Fourteen grains of the acetate of lead had been taken, when sharp pains took place near the umbilicus, not unlike those in painter's colic; these pains may have arisen from the immediate effects of the lead, or they may have been caused by the sudden suspension of the diarrhœa.

Three other cases of severe chronic disease of the bowels were admitted into the hospital. Of these, two were discharged much relieved, but the discharges were always pultaceous,

and slight returns of diarrhœa occasionally took place. The third case was that of a seaman, who was taken ill at New Orleans ; at his entrance there was a slight cough, which gradually increased, but little or no expectoration ; the diarrhœa continued until the patient was reduced to the last stage of emaciation, and died five months after his admission. A few days before his death, great difficulty of breathing came on, with extreme resonance of one side of the thorax, and total absence of respiration. At his death tubercles were found in his lungs ; one of them had caused an ulcerated opening into the cavity of the pleura, into which the air was admitted. This case will therefore belong to the tuberculous diseases.

The little success attending the treatment of the three cases, which did not terminate fatally, shows the extreme difficulty in the treatment of the chronic dysentery of warm climates. But one of these cases was regarded as cured, yet even in this patient the dejections were not entirely restored to their natural state ; had he not submitted to a very strict regimen, it is not probable that the case would have ended as favourably. Of the two other cases, the patient who was most relieved, adhered strictly to a diet of farinaceous articles, and a little animal food.—*American Journal,* 1835.

CASE OF INVERTED UTERUS.

BY BURLEIGH SMART, M. D. OF KENNEBECK, MAINE.

February 28th, 1833, Mrs. S. L. æt. 31, was confined this day three weeks with her first child ; having been very sick ever since confinement, and no improvement in her symptoms, I was desired to see her.

Her situation had been such that the catheter was used twice daily ; great distress in the vaginal and perineal region, with inability to be raised ; she had reclined constantly on her back ; great prostration and frequent partial faintings.

Dr. E. the attending physician and accoucheur says that there is a tumour in the vagina, which he supposes to be an excrescence, or scirrhus or polypus connected with the fundus of the uterus, and which appeared there on removing the placenta and has been there ever since. He states that the labour was tedious, and the delivery, which was finished with the vectis, was difficult. The attendants say there was great exhaustion and considerable hæmorhage. She now appears bloodless.

On examination I found the whole vaginal canal filled with a soft compressible tumour and on carefully searching for the neck of this tumour, expecting to find an incomplete or partial inversion, and remembering what Dewees and others had said upon inversion of the uterus, I was disappointed to find that there was no neck to the tumour, nor any os uteri to be found, but a continued smooth surface, uninterrupted in its continuity by any unevenness of surface until it diverged, and was lost in that arched roof of the vagina, which terminates this cannal where it surrounds and embraces the neck of the uterus.

During this examination, blood oozed out on the surface of the tumour, forming thin coagulæ some of which were removed with the hand. The tumour appeared soft and yielding with apparently but little elasticity, or rather resisting power to compression, for it possessed sufficient elasticity to resume its form when altered by compression. The attending physician stated that it had been much harder, and felt like the head of a child, so hard was it ; and for such he at first mistook it.

The pulse at this time was 120, and had been 150 Attempts had been made to carry this tumour up out of the vagina; but every one had been followed by a return of the tumour to the former situation. A small wooden pessary had also been used, but with no advantage.

The tumour being so soft and yielding, induced me to advise another attempt to reduce the inversion and to prevent a return of it. An instrument, something in the form of a common iron mortar pestle, consisting of a stem, about seven inches long, and one and three-fourths in diameter, terminated at each end with a very flattened oblate spheroid, one of which was rather larger than the other, the larger end being hollowed out superiorly in the form of a concave hemisphere, and covered with cotton cloth, so as to present an elastic concave surface on pressure, into which was received the convex depending portion of the fundus of the uterus in replacing it. The lower end of the instrument came outside the vulva, and was secured in its place by a T bandage.

March 2d.—Found the fundus on removing the instrument still depending, but higher up the vagina, the reduction not having been completed. The defect was stated to the attending physician, with the advice to pass the instrument above the place of the utero-vaginal junction, and to carefully maintain it there.

3d. Found the fundus above the os uteri, with its margin distinctly defined ; still the convex surface of the depending fundus could be felt by the finger through the pendulous os uteri.

There being considerable local irritation, some chills, and frequent motions of the bowels, with tenesmus, and pain in the back and bowels, it was not thought adviseable at present to attempt the entire replacement of the fundus. Sig. Tr. opii, and ess. teusey, ää, gtt. xij. Continue the instrument.

4th. Comfortable night ; the depending fundus still perceptible to the finger above the os uteri, which now appears contracting. The instrument was now removed, on account of the local irritation it produced, and a sponge pessary was substituted, with a thick compress on the perineum, and the T-bandage.

6th. Restless night ; she thinks, (to use her language,) the womb is down again.

An examination proved that she was mistaken. The os uteri just admits the finger ;

the inverted fundus can still be touched by the end of the finger.

May 16*th*. On examination found the os uteri closed ; parts in a natural state; still unable to pass the urine, rendering the catheter necessary. Complains of numbness in the left leg and arm ; sensation of weakness, and occasionally of faintness at the stomach. Tenderness of the dorsal and lumbar vertebræ. Directed Tr. Strychnin. gtt. 5 bis die, and Tr. Ferri muriat. gtt. 8 bis die. Ung. antimon. to the spine, over the tender portions.

19*th*. Feels much better ; limbs much stronger ; stomach better ; some eruption on the back from the ointment. Continue the medicines.

17*th*. Better every way; appetite improved; walks about, and up and down stairs. Has omitted strychnine on account of growing somewhat nervous. Substitutes decoct. valerian. For pleurodyny, with which she has been troubled, directed anodyne liniement, to be followed with Emp. rob. From this time she continued to improve ; soon after she took the Tr. Strychnine she was able to pass her water. There never was any secretion of milk She at this time enjoys her usual health, having always been of a feeble and delicate constitution, and scrofulous diathesis.

The reporter of this case believes it to be unique in point of time, as no record of a similar case has ever met his eye of an inverted uterus having been reduced after so long a period. And the success of this case he is inclined to attribute to the relaxation and want of contractility in the organ and its neck ; for it will be seen by the notes of the case, that it was a number of days after the fundus was returned beyond the neck, before the neck contracted so as to close the mouth.

He feels certain that he did not mistake a partial for a complete inversion, as Dr. Dewees has supposed others have done.

EXTRACTS

FROM

LECTURES.

CASE OF HEPATIC ABSCESS.

By William Stokes, M. D.

In order to fill our columns with valuable matter, instead of inserting the whole of the lectures published in the English periodicals, we shall extract only that portion of them which is really useful.

The patient who was the subject of this disease, was admitted into the wards of the Meath Hospital in August, 1828. The history of his case was, that he had been labouring some time previously, under obscure symptoms of an hepatic affection, accompanied by slight fever and jaundice, which had gradually subsided. Three weeks before admission, he stated that he had irregular fits of shivering, followed by sweating, and when he came to the hospital, he complained of sickness of stomach, but particularly of cough and difficulty of breathing, which were extremely harassing, and said that he came in chiefly to be cured of his cough. He was considerably emaciated, and looked pale and low ; but his stools had a natural appearance. On considering the history of his case, and the symptoms then present, it struck me that it was either hepatitis with suppuration, or empyema of the right side, with irritation of the liver. At that time I had not made my researches on the diagnosis of empyema, and I must confess that I experienced a great deal of difficulty in determining the nature of the case. I found the right side considerably dilated, with dullness on percussion over its inferior half, but the intercostal spaces were not distended, and preserved their natural appearance. The case went on in this way for sometime. Permit me to draw your attention for a moment to this point. Dilatation of the right side may result from the pressure exercised upon it by a solid or by a fluid mass. If the mass be solid, it will push the ribs outwards ; but the intercostal spaces will still preserve their natural appearance. But if the protrusion of the side be the result of pressure by a fluid mass, the intercostal spaces will be acted on even more than the ribs, and the sulci, which mark their situation, will be effaced. Now, in this case the intercostal spaces were evident, and from this circumstance I determined that it was a liver disease. The patient continued for a fortnight without exhibiting signs of any material change, and then the tumour increased very much in size, but there was no appearance of pointing. At this time the patient was visited and examined by a number of medical men, and all agreed that it was a case of deep-seated suppuration of the liver. Under these circumstances it was thought adviseable to make an incision through the integuments down to the peritoneum, as recommended by Dr. Graves, and to keep the wound open by filling it with lint. This operation was performed, and the wound kept open for several days, but no matter came. On the sixth day the patient began to sink, his face became hippocratic, his extremeties cold, and every one thought he was dying. During the course of the day it was observed that there was a circumscribed tumour, with a distinct sense of fluctuation, situated close to the wound, and towards the right side of the mesial line. Here is an important stage of the case ;—a man presenting evidence of suppuration in the liver has an operation performed on him to favour the exit of pus externally, and some time after this we find a circumscribed fluctuating tumour, nearly in the situation of the wound. We concluded that the hepatic abscess was pointing in that situation, and it was determined to pass a lancet cautiously into the tumour. This was done, but to our astonishment, instead of pus pure bile escaped through the incisions. It is clear that we had mistaken a distended gall-bladder for an abscess, and this I need not tell you was a serious error. It is singu-

lar, however, that the accident was not followed by any bad consequences. About two hours after the operation the patient went to stool, and passed two large evacuations, consisting chiefly of a vast quantity of purulent matter. Next morning he was surprisingly well, *and the hepatic tumour had considerably diminished.* His countenance recovered its natural expression, his spirits were quite elated, his pulse had become tranquil, and the liver was manifestly returning to its ordinary dimensions. He began to sit up, was put upon generous diet, could walk about the ward, and was talking of leaving the hospital. From the period, however, at which the discharge of pus took place he had an obstinate diarrhœa, and though he took a great deal of nourishment he was still pale and emaciated. Twenty-two days after the subsidence of the tumour, another swelling began to make its appearance in the epigastrium which increased daily, and it was obvious that another abscess was forming in the left lobe. About a fortnight after this, he was suddenly seized with excruciating pain in the epigastrium, followed by symptoms of peritonitis The tumour in the epigastrium subsided, but the patient sank in a few days of the perioneal inflammation. Let me recal the circumstances of this case. First, we have obscure signs of the existence of abscess; then the sudden escape of matter from the bowels, accompained with subsidence of the hepatic tumour; in the next place a persistence of diarrhœa and emaciation; and lastly, we have a new tumour in the epigastric region, disappearing on the supervention of symptoms of acute peritonitis. From a consideration of all these circumstances, I stated to the class that I should expect to find evidences of the abscess in the right lobe, which was the first affection, and I ventured to say, that the opening between it and the intestinal tube was still pervious. I was led to form this opinion from observing the persistence of the diarrhœa, to check which, and the ordinary remedial means had failed. This was the first part of the diagnosis. In the next place I stated my belief, that the gall bladder had been punctured, but could not explain why the bile had not escaped into the peritoneum. Thirdly, I said, that an abscess had formed in the left lobe, which had discharged its contents into peritoneal cavity. All this was stated publicly, and on consideration, you will find that there was no great difficulty in making the diagnosis On dissection, we found a cavity in the right lobe, with a small quantity of matter in it, and having a free communication with the duodenum. The fundus of the gall-bladder was found adhering to the parietal layer of the peritoneum, and the mark of a lancet wound in it was evident. A recent abscess was discovered in the substance of the left lobe of the liver, from which the matter had escaped into the peritoneum by a passage capable of admitting a small quill. Every part, therefore, of the diagnosis of this case was perfect, and borne out by the necroscopic appearances. You will see the details of this very interesting case published in a paper by Dr. Graves and myself, in the fifth vol. of the Dublin Hospital Reports.*

This case is exceedingly interesting, because it illustrates two remarkable terminations of hepatic abscess: in one instance, by opening into a cavity which had an external communication, in the other, into a shut sac. The patient recovered from the first abscess, and would have done so effectually if the fistula had closed, (no uncommon event;) but he could scarcely have recovered from the second, because where the matter escapes into the peritoneum or pleura, the patient almost invariably dies of acute inflammation of these cavities. This case derives additional interest from the circumstance of the gall-bladder having been opened. I believe this is the only case on record in which an opening made into the gall-bladder has not been followed by fatal consequences.

COMPLICATION OF HEPATITIS WITH DISEASE OF THE HEART.

A common error is that of confounding affections of the heart with those of the liver, and this I regret to say is an error of very serious consequence, and one which is frequently observed in the consultations of medical practitioners. A patient complains of palpitations, a physician is called in, and pronounces the disease to be hypertrophy of the heart; another is called in, and gives it as his opinion that the liver is affected; a third is summoned, and says that both the liver and heart are diseased. In such cases you should always make a careful examination, and weigh well the circumstances of the case in your mind before you venture to pronounce an opinion. In the first place, you are to recollect that organic disease of the heart may produce disease of the liver. Secondly, that disease of the liver, (though not so often,) frequently brings on morbid affections of the heart, and nervous palpitations. Thirdly, that these affections act to one another reciprocally as cause and effect. If a person had disease of the heart, the current of the circulation through that organ is obstructed, and you may have disease of the liver, not as the result of any original affection of that organ, but as the effect of chronic obstruction to the passage of blood through the heart. The consequent congestion and disease of the liver may, in such a case, be reflected on the digestive tube, and this in turn may re-act on the heart. The heart sympathizes then with the irritation of the digestive tube; we have nervous palpitations, and if these continue for a length of time, we have the disease of the heart increased. Again, suppose a patient has chronic disease of the liver, causing more or less obstruction to the circulation; the heart-

* We shall look out for the case and publish it.—*Edit. India Jour. Med. Phy. Science.*

begins to sympathize, palpitations commence, go on increasing, and finally terminate in hypertrophy of the heart. The mischief does not stop here; the effects of obstruction extend to the vena cava hepatica, this in turn re-acts on the liver, and we have in this way a curious train of phenomena; first liver disease, then heart disease, and lastly, liver disease again. Let me once more impress upon you, that, under such circumstances, you cannot be too diligent in making an examination, or too cautious in pronouncing an opinion.—

ON THE CONNEXION OF HEPATIC WITH GASTRO-INTESTINAL DISEASE—MODES OF TRANSMISSION OF DISEASE FROM THE MUCOUS SURFACE TO THE LIVER.

The disciples of Broussais are of opinion that almost all cases of hepatic inflammation are secondary to a gastro-enterites; that the first morbid action is on the surface of the intestinal tube, and that it is transmitted from this to the liver. I have taken a considerable share of pains in investigating this subject, and have examined very carefully the question as to the complication of hepatic inflammation with disease of the gastro-intestinal surface, and the conclusions to which I have come are the following:—In the first place, that most cases, whether of acute or chronic inflammation of the liver, present the complication, more or less, with disease of the intestinal mucous surface, and that in the majority of instances, there is some degree of actual disease of the digestive tube. It would appear also, from observation of different cases of hepatitis, that in a great many the affection of the liver has been secondary, and that symptoms of disease of the digestive tube have preceded those of hepatic irritation. But on the other hand we must admit that the hepatic affection may be primary; that the liver has the irritative, and that disease has been subsequently propagated to the gastro-intestinal mucous surface. Lastly, we may have hepatitis both acute and chronic, quite independent of any disease of the mucous coat of the stomach and bowels. This, I believe, is the rarest case: still it does occur. You observe, therefore, that the doctrine of the physiological school, that all hepatic inflammations are secondary to a gastro-enteritis, is not supported by the authority of facts. It is therefore wrong to say that every case of acute or chronic hepatitis is preceded by gastro-intestinal inflammation. Facts have been brought forward to show that not only has inflammation of the liver been observed in the simple state, and independent of any complication with intestinal disease, but that the affection of the liver has distinctly preceded the symptoms of gastro-enteric disease. On the other hand, however, I am free to admit that these are the exceptions rather than the rule, and that in the majority of cases, hepatitis is either secondary, or complicated with disease of the gastro-intestinal surface.

Now, a very interesting question comes to be considered, and this is, how does the disease come from the gastro-intestinal surface to the liver? Pathology informs us that irritation may be transmitted from one organ to another in three different modes. First, sympathetically, as through the medium of the nerves. Thus, long-continued stimulation of the stomach is reflected upon the liver, the liver sympathizes with the suffering organ in its vicinity, and finally becomes diseased itself. It is in this way that many chronic affections of the liver and stomach terminate in affections of the neighbouring viscera and dropsy. The first mode then, in which disease may come to affect the liver from the gastro-intestinal surface, is by sympathetic irritation. The next mode is supposed to be the actual transmission of disease along the biliary duct from the duodenum to the liver. Inflammation commences in the duodenum; this creeps along the ducts until it reaches the liver, which takes on the inflammatory action in its turn. Several persons of high authority have supported this view of the question, and assert that they can actually demonstrate the passage of inflammation along the ducts. Without denying the possibility of this, yet I feel convinced that it is rare. I have never been able to discover this mode of propagation of inflammation from the duodenum to the liver; and it must be remembered that in the great majority of cases of duodenitis we cannot detect inflammation in the liver or its appendages. The last mode by which disease may be transmitted, is the propagation of inflammation along the course of the veins belonging to the portal system; that is to say, there is phlebitis of the portal system, and the inflammation travels along the veins until it arrives at and attacks the liver. That this has occurred is proved. But we may suppose that in certain cases, disease of the liver may result from a phlebitis of minute mesenteric veins, without a continuous spread of inflammation to the larger trunks; just as the lung is affected in cases of phlebitis of the extremities, not by actual spread of inflammation, but rather, as Mr. Arnott has shown, by the transmission of the products of that inflammation.

SINGULAR CASE.

OF

PULMONARY, HEPATIC, AND INTESTINAL FISTULA.

My lamented friend and instructor, the late Dr. William Cullen, whose loss to pathological medicine was irreparable, and whose splendid attainments and high character justly and rapidly raised him to an elevated rank in his profession, brought me to see a patient. One of the most curious circumstances connected with this case was, that when the patient sat up in bed, a fluid of a serous character was poured out in considerable quantity from the anus; but while he remained in the horizontal posture this did not occur. The patient died shortly afterwards; and on dissection it was found that he had a gangre-

nous abscess of the right lung, communicating with the pleural cavity, which contained a quantity of a sero-purulent fluid, and a mass of hydatids, some broken down, others perfect and entire. On continuing the dissection, it was found that the cavity of the pleura communicated with the right lobe of the liver through the diaphragm. In the right lobe of the liver the same kind of sero-purulent fluid and a quantity of hydatids were discovered; and, what was still more extraordinary, the cavity in the liver was found to communicate with the colon by a distinct opening. There was then in this very remarkable case a direct communication between the bronchial tubes and the colon, through the pleura and liver. We can thus see that when the patient assumed the erect position, the fluid would immediately pour into the colon,—*Stoke's Lectures.*

USE OF CHLORURET OF LIME IN BLENORRHAGIA.

Professor Gerafe of Berlin, was among the first to employ this remedy in inflammatory discharges from the urethra; and so favourably did he augur of its good effects, as to state that it would cure the disease when copaiba and cubebs had failed. It was used both internally, either in the form of mixture or of pills, and externally as an injection: the formula for the pills is as follows:—Take of the chloruret one drachm, of extract of opium nine grains, and as much gum as may be necessary to form a consistent mass, which is then to be divided into fifty-four pills. At first, one may be taken every two or three hours; and the dose is to be gradually increased till eight, ten, or twelve are taken every hour. The injection is made by dissolving twenty-four grains of the chloruret in six ounces of water, and adding half a drachm of the vinum opii. The strength must be regulated according to the irritability of the canal. This treatment has been successfully adopted in acute as well as in chronic cases; but it is in the latter set chiefly that the greatest benefit has been obtained. As a matter of course, if the irritaion produced exceed certain limits, we must omit the use of the chlorurets, and resort to a more soothing treatment. In one patient, who had had a gleet for two years, the discharge was stopped in the course of ten days.—*Trav. de. la Soc. Med de Bourdeaux.*

OBSERVATIONS UPON THE THERAPEUTIC EFFECTS OF CREOSOTE.

By Dr. Reich, of Berlin.

During the winter of 1831-2, Dr. R. was exposed for many hours, in an open carriage, to the rain and snow. His right hip was, during all this time, soaked with the water of the melted snow, in consequence of which he was attacked with a fixed and permanent pain of the joint, which resisted all the ordinary means; at the same time that the articulation was painful, the thigh was insensible, and, as it were, paralysed. Imagining that the *tinctura fuliginis* of Seelig, which had produced such good effects in gout and rheumatism, probably owed all its properties to the creosote, he determined to employ this latter substance itself. He commenced with five drops in six ounces of emulsion, by spoonfuls. The disagreeable taste of the medicine excited some nausea; nevertheless, the night having been passed in tranquility, M. Reich took the next day ten drops; the following day twenty drops, in four doses. The feeling of stupor and paralysis in the thigh was entirely dissipated. The shooting pains in the articulation disappeared the next-morning, but returned before evening, as also the feeling of stupor. The medicine was again employed during the three following days, in the dose of twenty drops per diem. The pain and the stupor were entirely dissipated, and did not return.

A lady, aged forty years, had experienced, in the month of July, two attacks of acute rheumatism, accompanied with swelling of the joints of the hands and feet; on the 24th of August she was taken in the limbs with a feeling of stiffness and engorgement, which is the ordinary forerunner of the most acute pains. The creosote was prescribed, but this time in the form of pills, in order to disguise the disagreeable taste which it has in the liquid state. The following is the formula:—R. Creosote, ℥i.; Powdered Althæa, q. s. f. in pil. c. x. On the 26th, the patient only complained of a sensation of stiffness in the articulation of the knee. The 28th, she could go down into the garden, and on the 6th of September, she was free from all rheumatic pain, from every feeling of stiffness in the joints; she had, besides, regained the freshness and the appearance of good health, which, it is well known, never exists under the influence of the rheumatic diathesis.

A man, aged fifty-three years addicted to the use of alcoholic drinks, was affected with gout at the commencement of 1832; it was relieved at first by the use of the mineral waters of Wis-Baden. He had a new attack at the commencement of 1833. A physician was consulted, but did not relieve him. The employment of the juice of herbs, and of a potion, with muriatic acid and ether, produced a momentary relief. But about the 21st of September he had a relapse. The invalid could not walk without the assistance of crutches; the joints of the foot and knee were swelled; every night sweats exhausted the strength of the patient; his lips and tongue were very red; his gums were softened. They resorted to the employment of the pills of creosote, five of which were taken in the morning and the same number at night; they were continued to the 22d of November, and with such success that the patient could take daily long walks.

The author also cites two cases of phthisis pulmonalis, with purulent expectoration, in which pills of creosote produced a cure. But, as he does not give the stethoscopic signs, this should be doubted. Too many cases of pulmonary catarrh have been cited as cases of phthisis pulmonalis cured for one not to feel incredulous.

M. Reich has also employed the creosote externally with constant success.

The first experiment was made upon a female subject three days after death. Putrefaction was already far advanced, and the odour was insupportable. The body was sprinkled with the distilled water of creosote, which stopped the progress of putrefaction and destroyed the bad odour.

A young man had been affected with the most severe confluent variola; his body was covered with scabs, raised by collection of thick and fœtid puss; the employment of a solution of one drop of creosote to the ounce of water, destroyed the odour, and caused the ulcerations of the skin to cicatrize. An effect equally advantageous was obtained in a child of seven years of age, whose mouth was filled with apthæ and erosions, accompanied with swelling of the maxillary glands and bleeding of the gums.

A young man, aged twenty-six years, had a scrufulous ulcer on the external part of the leg for six years, during which time it had several times been healed, but again reappeared soon after. For eight months it had been open, and surrounded with varices and indurations; the creosote did not produce complete cicatrization, because the patient did not wish to continue its employment, but it procured a remarkable abatement in the pains, of which this ulcer was the seat. In a pregnant woman, affected with gonorrhœa and venereal ulcers and who previously had frequently had leucorrhœa, injections of creosote, suspended in water, completed the cure in fifteen days.

The medicine has not shown itself less efficacious in odontalgia, obstinate itch, and many diseases of the skin of a syphilitic origin. *Hufeland's Journal.*

PATHOLOGICAL APPEARANCES OF CASES OF INJURY OF THE SHOULDER-JOINTS, WITH REMARKS.

The *Medical Gazette* for May 24th last, contains the following interesting contribution, from John G. Smith, Esq., to our knowledge of the pathology of the shoulder-joint. Mr. S. is unable to give any previous history of the different cases; the whole of them occurred in bodies brought to his theatre for dissection.

"*Case* I. In the body of a man brought to the dissecting-room, under the old system of violation of the grave, in the month of February, 1832, the following pathological condition of the left shoulder-joint was observed:—

"On making a transverse section in the centre of the deltoid muscle, for the purpose of reflecting it, the bursa situated beneath was observed to be much larger than usual, very much thickened, and communicating with the general cavity of the shoulder-joint by a large irregular opening. On further examination, it was noticed that the tendinous insertion of the subscapularis muscle had been entirely torn away from the lesser tubercle; the supra-spinatus, infraspinatus, and the teres minor muscles, had likewise been completely detached from the greater tubercle. The tendon of the long head of the biceps had been torn away from the upper part of the glenoid cavity, and entirely withdrawn from the joint: it was found to be firmly attached to the anterior margin of the bicipital groove. The head of the humerous moved freely in all directions on the glenoid surface of the scapula, and the size of the cavity of the joint was much increased, from the extensive laceration of the capsular ligament; it included the whole of the neck of the bone and both tubercles. The appearance of thickening of the capsule below would seem to indicate that it had likewise suffered laceration in this situation at the time of the injury. A small portion of the outer margin of the glenoid cavity had been fractured off, and, with the under surface of the acromion process, and the tubercles of the humerous, were partially covered with portions of enamel-like or porcelain secretion; and numerous bands of organized fibro-ligamentous substance extended across the cavity of the joint in different directions. There was a fracture of the humeral extremity of the clavicle, which extended into its articulation with the acromion.

"*Case* II. Mary B****, æt. 30, died of consumption in St. George's Workhouse, and was removed to the theatre for dissection, in November, 1832, under the new regulations provided by the Anatomical Bill.

"The left shoulder-joint presented the following appearances:—The bursa beneath the deltoid muscle communicated, by a large irregular opening, with the general cavity of the joint: the tendon of the subcapularis muscle was partially torn from the lesser tubercle of the humerous, but the insertions of the supra and infra-spinatus muscles and the teres minor, remained perfect. The round tendon of the long head of the biceps muscle was ruptured, leaving a portion, about half an inch in length, attached to the upper part of the glenoid surface: the lower portion of the tendon had been drawn from the cavity of the joint, and lay firmly attached to the margin of the bicipital groove. The ruptured extremities of the tendon were perfectly smooth and rounded, and the superior portion had become much flattened: small bands of fibro-ligamentous structure were observed, but none of that peculiar enamel-like secretion noticed particularly in the preceding case.

"*Case* III. Ann D***, æ. 38, died January 1st, 1833: removed from St. George's Work-house, for the purpose of dissection, under the new regulations.

"The following account of the appearances of the right shoulder-joint is extracted from the notes entered at the time, in the dissecting-room journal,* by Mr. G. Knox who

* We have been in the habit for some time past of keeping a dissecting-room journal, in which every thing is entered that occurs out of the regular course, or differs from the natural appearance; the consequence has been, that we have already collected a few interesting exam

dissected the extremity. On removing the deltoid muscle, the head of the humerus came into view, presenting a larger surface of bone than usual: on further examination, it was found that the tendon of the subscapularis muscle had been partially torn away from the lesser tubercle, and the original insertions of the supra-spinatus, infra-spinatus, and teres minor muscle, had been completely separated from the greater tubercle. The tendon of the long head of the biceps had also been torn from its origin, and had become attached to the upper part of the bicipital grove.

"The under surface of the acromion process was found hardened by the friction of the head of the humerous, and covered by a peculiar enamel-like secretion. The capsular ligament appeared unusually thick at the lower part, which gave rise to the idea it had been lacerated at the time of injury, and had become reunited by the effusion of coagulable lymph.

"*Cases* IV. and V. Catharine S***, æt. 56, died February, 1833; was removed from St. George's Work-house, under the new regulations, with a medical certificate signed "sudden death." She was a short, stout, muscular subject, and, upon inquiry, proved to have been a hard-working woman at the wash-tub up to the time of her death. The shoulder-joints presented the following appearances:—

IN THE RIGHT SHOULDER.—The bursa beneath the deltoid muscle communicated with the general cavity of the joint, by a jagged irregular opening about the size of a half-crown. The tendon of the subscapularis muscle was torn from the lesser tubercle, and the tendon of the supra-spinatus muscle detached from the greater tubercle; both having become united with the common capsule. The tendon of the long head of the biceps had been torn from the upper part of the glenoid cavity, withdrawn from the joint, and found to be firmly attached by ligamentous structure to the margin of the bicipital groove. There were a number of small exostoses on the tubercles, covered with the enamel-like secretion, which corresponds to a similar appearance on the under surface of the acromion process.

There was an oblique fracture of the acromion process of the scapula, which had separated about an inch of its expanded extremity; it had not united by bone, but had formed an artificial joint through the medium of cartilage, and was further strengthened by a fibro-ligamentous capsule.

The appearance of the biceps muscle was very remarkable, and first directed the attention to the condition of the joint; the portion of the belly of the muscle appertaining to the long head, was remarkably short, and the short head, unusually developed, appeared in great measure to supply the place of the other.

IN THE LEFT SHOULDER.—On dividing the deltoid muscle, the bursa at its under surface was found very much thickened and enlarged, and an opening observed, which communicated with the articulation. On further examination, this opening was found to be caused by a partial separation and detachment of the supraspinatus and subscapularis muscles, from the larger and lesser tubercles; the surfaces from whence they had been torn being within the capsular ligament. The inner surface of the capsule presented a very rough fibrous appearance, occasioned by the portions of the lacerated tendons; the synovial membrane, presenting small villous productions, the result, apparently, of organized lymph.

The tendon of the biceps was wanting in the joint, having been torn through and divided into a number of fibres, which were attached to the upper part of the bicipital groove; small bony exostoses had been thrown out on the tubercles, and the cartilaginous surfaces of the humerus and scapula were here and there covered by small patches of the enamel-like secretion.

The acromion process of the scapula had been fractured precisely in the same situation as that of the opposite side, and formed a similar artificial joint.

Cases VI. and VII. Thomas K***, æt. 40, died April, 1834, removed from the Islington Infirmary, with a medical certificate signed "Consumption."

IN THE RIGHT SHOULDER.—The bursa beneath the deltoid muscle communicated by an irregular opening with the general cavity of the joint. The tendon of the subscapularis muscle was entirely detached from the lesser tubercle, and the fibres of the muscle itself were drawn downwards from the venter of the bone, presenting a small cavity beneath, lined by an irregular fibro-ligamentous structure, and communicating with the articulation. The tendon of the supraspinatus muscle was torn from the greater tubercle, the infra-spinatus and teres minor muscle remained attached; but the muscles appear, at some former time, to have suffered severe tension.

The tendon of the long head of the biceps muscle was not separated from its origin, but displaced from the groove, and lay loose in the inner part of the cavity of the joint; it is expanded, and bears evidence of having been subjected to pressure and friction; one surface, which corresponds to the head of the bone, is smooth and polished, the other presents a bundle of silvery cords, which may be spread out upon the finger three quarters of an inch in width; the bicipital groove is nearly filled with a fibro-ligamentous substance, similar in structure to numerous small bands, which extend across the joint in different directions, from one point of the synovial membrane to another.

The capsular ligament had been much stretched, and will readily allow the head of

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ples of varieties in the distribution of arteries and nerves, the absence of certain muscles, &c. If this plan were generally adopted in the dissecting-rooms in London, in the course of every session, a very curious and valuable collection might be made; the most interesting examples of which might be selected, and annually published in one of the medical periodicals.

the humerus to be displaced under the coracoid process of the scapula, resting upon the inner margin of the glenoid cavity. There is no distinct evidence of the capsule having been ruptured in any other situation than that already mentioned, communicating above with the bursa beneath the deltoid muscle. There were small bony deposits about the tubercles of the humerus, which were within the general capsule, and here and there small patches of that peculiar porcelain secretion.

PROLAPSUS OF THE RECTUM, CURED BY THE APPLICATION OF THE ACTUAL CAUTERY.

A. M. aged fifty, was admitted into the hospital at Gand, in consequence of an old and troublesome prolapsus. It was as large as a large apple, and its mucous surface was swollen, irregular, hard, and almost callous.

Three cauteries, heated to whiteness, were successively applied to the mass, and Professor Kluyskens, not satisfied with this, introduced one of them into the anal orifice, so as fairly to touch every portion of the protruded gut, and reduce it to an eachar ; simple dressing was then applied, and kept in its place by a T-bandage. The pain produced by the cauteries was only temporary: the bowels were kept gently open, and the patient recovered without having experienced one unfavourable symptom. When he left the hospital, there was not the slightest tendency to prolapsus.

The operation, in the preceding case, may be deemed by some surgeons to have been too severe, and they may suppose that Depuytren's mode of exising three or four folds of the intiguments round the anus, might have succeeded perfectly ; but let them remember, that the protruded mass was much changed from its normal structure, and even if it could have been kept up within the sphincter, this was not to be desired. We admit that Dupuytren's operation is sufficient for most recent cases. For many years, Prof. Kluyskens has been in the habit of using the actual cautery to prolapsus of the rectum, and almost invariably with perfect success ; the plan is by no means so severe as might be imagined, and the danger of consecutive accidents may be averted by judicious treatment.—*L'Observateur Medical Belge.*

CASE OF UNUSUAL DISLOCATION OF THE HIP-JOINT.

By Robert Keate.

I was called into the country, on the 13th of February, to see a gentleman who had met with a severe accident, by his horse having fallen backwards with him, and upon him, into a deep and narrow ditch ; where he had remained, as he supposes, for near a quarter of an hour before he was discovered, when he was nearly exhausted by pain and by fruitless exertions in calling aloud for aid. The horse was lying on its back upon him, with his heels struggling in the air ; but the gentleman, who is strong and muscular, appears to have retained a firm hold of the bridle, and thus to have kept down the horse's head, and restrained, in some degree, the violent efforts of the animal.

He had been brought home, and was on his bed when I arrived. On examining the limb, I found it unusually elongated, at least from three to three inches and a half. The thigh was much flexed upon the pelvis ; the leg as much bent on the thigh. The whole limb was carried outward, or apart from the other, more than I had ever observed in any case of luxation. The knee and the foot were much everted ; the trochanter extremely sunk, the soft parts being elevated in a circle around it. I found that the head of the femur was displaced in a very unusual manner, to a situation inferior to the ischiatic notch ; and I felt it laying close to, and on a level with, the tuberosity of the ischium, where it was capable of being freely moved under my fingers.

Without noticing the unusual preparations for reducing a luxation, it will be sufficient to say, that, in the first attempt the head of the bone was thrown into the foramen ovale. A second extension enabled me to place it *nearly* in its proper position in the acetabulum, but it could not be perfectly replaced ; and on gently moving it, and placing my ear on the trochanter, I felt and heard a distinct grating, as if of ruptured cartilage. By drawing the upper part of the femur outwards (by means of a round towel thrown over my neck.) and pressing the knee sharply inwards, the head of the bone was replaced, with a snap, in the acetabulum ; but even after this I was able to elongate or pull down the limb, and it was evident to me that this was owing to a portion of the cartilaginous labrum having been broken off during the violence of the accident.

The gentleman was quite aware, and mentioned, after the first step, as I may call it, of the reduction into the foramen ovale, that the head of the bone was not properly replaced ; and he stated that the luxation had taken place by the same route, first into the thyroid foramen, and afterwards, while struggling in the ditch, from thence downwards to the situation in which I found it. The case has proved very favourable, but there was a severe injury at the same time to the knee, which threatens still to be troublesome.—*London Medical Gazette.*

MASTIC FOR FILLING CARIOUS TEETH.

Various articles are employed for filling the cavities of carious teeth, but when the cavity is large or the nerve painful, the soft fillings hitherto used are not sufficiently adhesive, and the hard ones cannot be introduced with sufficient force on account of the pain produced. The following composition has been recommended under such circumstances. This consists of mastic resin of the *pistacia lentiscus* four parts, sulphuric ether one part. The resin is readily dissolved in the cold ether, in a closely stopped vessel. It forms a citron yellow li-

quid of an oily consistence; exposed to the air it flows like melted butter, soon leaving a soft pitchy residue, which, when cold, becomes friable, but which is easily softened by the teeth.

This is used by steeping in the solution a piece of cotton of the proper size, and introducing it into the cavity of the tooth, previously well dryed and wiped. With the heat of the mouth the ether is quickly dissipated, and a resin remains which attaches itself to the internal asperities of the carious part. The resin becomes sufficiently soft to remain in the tooth without becoming friable, and by this means the tooth is protected from the action of the air and of cold or hot food.—*Journal de Pharmacie.*

CASE OF ABORTION WITH RETENTION OF THE PLACENTA.

A SECOND PREGNANCY WITH ABORTION AGAIN, AND THE DISCHARGE OF THE OVUM, AND PLACENTA OF THE PRECEDING FŒTUS.

This very remarkable, and, we believe, unique case, has been communicated to the *Gazette Médicale de Paris*, (October 11th, 1834,) by Dr. Pirondi, of Marseilles. The subject of the case was a lady thirty-eight years of age, who had been married at eighteen, and during the space of twenty years had been fourteen times pregnant, but only two of the children, the first and second, came to maturity. On three occasions the placenta remained for a longer or shorter time in the uterus after the expulsion of the fœtus. The abortions could not be ascribed to any particular cause. When in her eleventh pregnancy, Mad. ——— was attacked with rheumatism; a few days afterwards, and about the fourth month of utero-gestation, she aborted, and the placenta remained behind until the third day, when it was, after many attempts, extracted. In 1832, in her twelfth pregnancy, she again aborted at the same period, of utero-gestation, the placenta *adhering* to the uterus, and several efforts to remove it being ineffectual. An abundant and puriform discharge took place, and sixteen days after the abortion the placenta was expelled, whilst the patient was making efforts to urinate. At the end of December, 1833, Mad.————aborted for the sixteenth time, and the placenta was again retained. The medical attendants being aware of what had previously occurred, made no attempts to extract the placenta. The lochia were copious, very thick, and very fœtid. A short time afterwards the menses re-appeared, but mixed with a small white, almost puriform discharge, and which continued, during the intervals of menstruation. The patient experienced constant pain in the epigastric and lumbar regions. Four months after this last abortion, the menses ceased, and Mad.———experienced symptoms of being again pregnant. Towards the third month of this pregnancy, the patient was attacked with a profuse uternie hæmorrhage, for which she was bled. The abdomen, at this time, appeared to M. Pirondi much larger than usual at the third month of pregnancy, and he supposed the patient must have made a mistake, and was in her fifth month. The uterine efforts increased in activity, and on visiting the patient M. P. found between the thighs of his patient a placenta, with its cord, and the fœtus half out of the vulvas. A strong pain, an instant afterwards delivered the patient. A quantity of extremely fœtid gas was then discharged. On examination the fœtus proved to be a three months one; the placenta was entire, the cord small and twisted, inserted nearer to the circumference than to the centre of the placenta, and exhibiting incipient disorganization at its base, and extending to the extent of an inch around its insertion in the placenta. Shortly after the delivery of the fœtus, the uterine pains were renewed; and M. P. thinking that they were incited by a clot of blood, introduced his hand to extract it. He was much surprised at meeting, near the neck of the uterus, which was much dilated, a large round and firm body, which was with difficulty extracted. Observing, on its delivery, that it was a placenta, M. P. feared that it appertained to another fœtus, and he instantly introduced his hand into the uterus, but found its cavity unoccupied; it then occurred to him that this last might be the placenta which had remained in the uterus at the previous abortion. This placenta was five and one-fourth inches in diameter, almost two inches thick at its centre, and the insertion of the cord could not be distinguished; black and rugged on its surface; its consistence was moderate nearly throughout; however, a fifth of its circumference was deficient, and the borders of the excavated portion was softened and in a very advanced state of putrefaction.

ABOLISHMENT OF SANATORY CORDONS IN SPAIN.

A royal order was published in the *Madrid Gazette* of the 26th August, 1834, announcing the inefficiency of sanatory cordons as a measure of prevention against the cholera; and acknowledging that they were established out of respect for popular prejudice, but the consequences have been disastrous, and the people exposed, by a doubtful remedy to all the evils of want and misery. Sanatory cordons are accordingly abolished.

Thus in Spain as previously in Russia, Prussia, Austria, and indeed every where else, these sanatory cordons have been productive solely of mischief.

CASE OF RETENTION OF URINE, CURED BY A SOLUTION OF MURIATE OF AMMONIA.

By Alexander Somervail, M. D. of Virginia.

Betsey Grymes, (a free negro,) was very sick two weeks ago, suffering much pain, for which I gave her twenty drops of a solution of sulphate of morphine, (my usual dose is seventeen drops,) Next morning she was better; it was repeated in the evening, and a drop more

may have been given. In the morning the pain was gone; but she could not evacuate one drop of urine. I sent her a solution of muriate of ammonia, (sal ammoniac,) five grains; a dose every hour. In the evening she had only taken two doses, (as she did not get it time enough to take more,) and had evacuated some spoonfuls, from which she was relieved. Next morning free evacuation had been made after she had taken three more doses, five in all; not a drop before taking the muriate.

I have frequently experienced more or less difficulty in evacuating urine after opium.

MEDICAL BIOGRAPHY.

BARON DUPUYTREN.

(WITH A PORTRAIT.)

The advocates of public *Concours* may fairly boast, that among other great men, it produced a Dupuytren. Without this Institution, indeed, we do not see how such men can be brought into their proper sphere of activity at that fit age, when the limbs are sure and nimble and the organs of vision most perfect.

Whilst the *Concours* is the only efficient mode of testing a professional man's ability, it becomes, at once, the most powerful and most legitimate incentive to exertion, because it ensures to him a fair appreciation and just reward, according to his real merit. Without it, how could Dupuytren have become *Prosecteur to the Ecole de Santé* at the age of eighteen? At this early period of life, he thus learned, that he belonged to a country, where, whatever services he could render to science and humanity, would be fairly weighed with those of his competitors; and thus stimulated to labour and exertion, he rose through the same honourable means to be *Chef des Travaux Anatomiques* at the age of twenty-four; Second Surgeon to the Hotel Dieu at twenty-six; and at thirty-three, ascended the chair of Sabatier, as Professor of Operative Surgery to the School of Medicine! Nor can it be said that the *Concours* opens too easy a path to eminence, and that, after such success, a man rests satisfied and relaxes to ease and *inertia*. On the contrary, by *Concours*, rivals are constantly rising up, closing upon you, treading at your heels; and unless you go on, will not fail to take your place. Dupuytren felt this; and never did any man go through a more brilliant series of labours to sustain his reputation. He was indefatigable beyond example. For twelve years he was at the hospital, morning and evening, at 6 o'clock; and, well or ill, was not known to be absent once during that long period, at the Hotel Dieu! Each morning, Sunday only excepted, he attended to 300 patients, delivered a clinical lecture, performed several operations, gave advice to some hundreds of out patients, and then walked home to breakfast at half-past 10 o'clock!

After this, he saw his private patients, attended to the examinations of students at the school of medicine, performed his private operations; and, at 6 in the evening, again went round the wards of the hospital. Nothing less than the discipline of *Concours* could have trained a man to the performance of such arduous duties, such tremendous labour.*

William Dupuytren, one of the most distinguished surgeons of modern times, was born at Pierre Buffiere, on the 6th October, 1777. When three years of age a strange event happened to him. He was a beautiful child, and was playing in one of the streets of his native city, when a lady who was travelling, and whose circumstances rendered it advantageous that she should have a son, even at a great price, happened to pass by that way. She was captivated with the boy, and carried him off towards Toulouse. While congratulating herself upon the possession of such a handsome child, his father succeeded in overtaking her, and made her restore his son.

His appearance gained for him the regard of a cavalry officer whose regiment was passing through Pierre Buffiere. Dupuytren was then twelve years of age, and was playing in the public square. The officer observing him, asked him some questions, and was answered with such intelligence and readiness that he was astonished. He spoke to the boy of Paris, and of the possibility of his taking him there. Dupuytren received the proposal of the officer with joy, quitted his play, bade adieu to his native town, and departed for Paris with 10 francs (8s. 4d.) in his pocket. When he arrived at Paris, Dupuytren was admitted into the College of La Marche, of which the brother of the officer was rector. There he distinguished himself, and carried off some prizes for acquirements in philosophy. His talents were first observed by Saint Simon, then by Thouret. The former, who was the originator of a sect which has made a great noise lately, and was made almost a diety, mounted one day to the garret of Dupuytren. The cold was piercing, and the student was studying in his bed. Saint Simon sat down upon a frozen pan, conversed with

* For these introductory observations, as well as for the interesting remarks embodied in many of the notes attached to this memoir, I am indebted to my able friend and colleague Mr. King, who possessed ample opportunities of studying the character of this distinguished surgeon. The facts in the text are derived from the "Essai Historique sur Dupuytren. Par Vidal, (de Cassis), Professeur agregé a la faculté de medicine de Paris," &c. 8vo. 1835., to which are appended the eulogies pronounced upon the deceased, by Orfila, Larrey, Bouillaud, Royer, Collard, and Teissier.—EDIT.

Dupuytren, and on going away, left on the pan the sum of 200 francs (£8, 6s, 8d.) In ordinary cases the inhabitant of a garret would have found means of laying out such a sum. But Dupuytren, considering that he ought not to accept of it, went to Saint Simon and said to him, "Sir, you left, by mistake, this sum at my house, I beg to return it." Saint Simon only replied, "it is true," and pocketed the money.

Thouret was soon convinced of the superior parts possessed by Dupuytren, and used his exertions to have him settled at Paris. When vacancies occurred at the great hospitals of France, at Strasburg, or Montpellier, if a proposal was made to Dupuytren to apply for them, he received it with gratitude, but always refused, from a fear that he was not fitted for the situation, and, at the same time, he pointed out men who were worthy of the place. It was thus that an excellent choice was made for Rouen, Montpellier, and Clermont. Boyer, Corvisart, and Thouret, assisted in this method of election adopted by Dupuytren.

Dupuytren was earnestly requested to accept the chair at Montpellier by some individuals; to whom Thouret replied, that that city was not rich enough to recompense such a man. In 1796, when scarce eighteen years of age, he was made Prosecteur at the Ecole de Santé.*

He was inspired with an indefatigable desire for the study of anatomy, and gave a course which attracted a great number of pupils.

In 1801 he was promoted to the head of the anatomical department. Taking advantage of such an important situation, he did not content himself with studying, merely, the normal condition of organic structure, he prosecuted also researches in reference to aberrations of form, and thus contributed in assisting to lay the important foundations of pathological anatomy. In 1803, Dupuytren was nominated joint surgeon of the Hotel Dieu. He was not, however, chief surgeon. He had formed a plan for the operation of tying the subclavian artery and an opportunity occurred for putting it in practice; but a *superior will* was opposed to him, as he himself said. He soon, however, afterwards performed this operation upon a patient. In 1812 he triumphed in a struggle which did him great honour. By the death of Sabatier the chair of surgery became vacant. A number of very eminent surgeons were candidates, among whom were Roux and Marjolin. He succeeded, however, in obtaining the situation, by means of his own talents and the influence of M. Pelletan, chief surgeon. It has been often said that Dupuytren afterwards forgot what this surgeon had done for him. The same fault of memory is attributable to Desault; for history states that Louis supported him by his credit, and had even opened his purse for him. However, the patron did not receive the gratitude from Desault which he had a right to expect. But Louis did not abate in his exertions for the surgeon's promotion. When, by the death of Moreau, the place of chief surgeon of the Hotel Dieu became vacant, he went and used his influence with the magistrate who had the most power in the appointment of the surgeon. "I have," said Louis, "reason to complain of Desault, but I owe it to the public interest to declare, that he is the man best qualified for the situation."

At this competition, a circumstance occurred which deserves to be mentioned. A day had been fixed for giving in a certain number of copies of a thesis. This injunction was of such a strict nature, that none were allowed to compete who did not accomplish it. The important day arrived, and Dupuytren was not ready. Different accounts have been given of the cause of this. Some attribute it to the difficulty which Dupuytren experienced in the composition of his thesis. Others say, that being dissatisfied with his first trials he wished to retire from the contest; but was anxious, at the same time, to make an honourable retreat. Vidal has been supplied with a correspondence, which has enabled him to give us the true version of the story. Dupuytren did not always write badly, but he wrote with great difficulty. Lebegue, who was his printer, wrote him, saying, that it was impossible to have his thesis ready in time, as he had made so many corrections. Dupuytren seeing the impossibility of terminating this competition, had resolved to retire, and had written a letter to the Dean to this effect. But M. Crochard, Senior, who published a work on surgery commenced by this surgeon, requested permission to add to the titles already acquired by the author, that of Professor of the Faculty. This bookseller devised the following method for obtaining the delay, which was necessary for completely finishing the thesis of Dupuytren. He made the printer write a letter stating that an accident had happened in the printing office; that a workman had, while carrying a form, made a false step, and allowed the form to fall among paste; that time would be required to prepare it for throwing off an impression, and that Dupuytren could have no control over it. M. Crochard went in great anxiety to the Dean, who was much embarrassed. Dupuytren said he was ill. At last M. Leroux terminated the matter by declaring that he would grant the delay, if all the workmen in the printing office would attest the correctness of the fact by their signatures. Immediately the attestation required was sent in, Dupuytren defended his thesis with the greatest success, and was declared professor.

At the Hotel Dieu, where once Desault had exhibited his remarkable enthusiasm for his favourite art, and where Pelletan also flourished, Dupuytren became chief surgeon in 1818, having been elected professor of clinical surgery in 1815. In the hospital he displayed an astonishing degree of activity, bestowing great

* M. Vidal remarks here, that John Hunter, at the same age, could not read. The French author might have known, that the poorest peasant in Scotland sends his son to learn to read, as soon as he is able to walk from his father's dwelling to the parish school, and, therefore, it was impossible that my immortal countryman, whose father was of respectable rank, could have been excluded from privilege, to which the very beggar is admitted. We know, indeed, that his education was finished at seventeen, when he went to Glasgow.—Edit.

attention on his lectures, which were very well attended. Thus the admirers of Desault and the friends of Pelletan immediately appreciated the talents of Dupuytren.

He rose at sunrise, went to the Hotel Dieu, and only left it at 11 o'clock. After his installation he wished to see and do every thing himself. In the wards, Dupuytren spoke little, especially to the students. If any one wished to ask him a question, it was necessary to do so before the visit, when he was not occupied with the preparation of his day's lecture. Notwithstanding the greatest precautions he sometimes answered with a disdainful look, which gave sad offence. In this respect he differed greatly from the good M. J. L. Petit, who instituted a course of surgery for the express purpose of answering questions. M. Petit spoke to the students with as great politeness as if he had been addressing the most distinguished men of his time. The surgeon of the Hotel Dieu answered sometimes; but there was something sharp and bitter in his replies, which silenced the most intrepid of the students. When he arrived at the patient's bed he remained for a moment, and addressed to the sick generally three questions, in the mildest tone of voice. If the patient gave a suitable answer the conversation was continued in the same accent, but if his answers were not connected properly with the questions, Dupuytren caught his humour, and sometimes it was necessary for the patient to become serious in order that he might recover the mildness of his tone, which he should never have lost. Dupuytren considered that patients had always a desire of concealing the truth, or a part of the truth. It is melancholy to confess that this idea was well founded. Those who have attended the great hospitals can attest its truth. It is not necessary here to investigate the causes of these mysteries of the human mind, but it is proper to mention that this fact is well displayed among the hospital patients in Paris.

To patients upon whom operations were performed, and with children, Dupuytren was always gentle, it might be said even amiable. He possessed such an influence over them, that in his presence they seldom complained of their sufferings. He had a way of putting the question, "*Are you in pain*," so, that he almost constantly received the answer, "*No*."

He employed this *magnetic* power to disconcert his associate. If a phlegmonous tumour presented itself, he would say, "Do you think, sir, there is pus here." If there was fluid, the eye of Dupuytren would intimate a negative answer to the professor. "Bring a bistoury," then would exclaim the surgeon, and immediately a flow of purulent matter took place. The poor associate obtained, however, some consolation, for the whole day after, this great man was uncommonly obliging to him. No one was less severe to his victim than Dupuytren.* Generally, however, he made a better use of this moral influence which he possessed in such a high degree. It is well known, that to reduce certain dislocations, many difficulties are experienced from the contraction of the muscles. In order to remove this effect, Dupuytren recommended taking off the attention of the patient. He joined example with precept in a most remarkable manner. One day a woman who did not belong to the lowest rank was brought to the Hotel Dieu. She had dislocated her arm, and all the trials which had been made to reduce it had failed. Preparations were made for employing extension and counter-extension. Two attempts at reducing the luxation being unsuccessful, Dupuytren cried out, "Madam, one is never betrayed except by their own family. You are addicted to wine, your son told me so." The poor patient who was a woman of uncommon temperate habits, was so much excited by this exclamation that she fainted. Dupuytren took advantage of this weakness and reduced the dislocation. He then laughed and clapping her on the head, said, "I know madam, that you drink nothing but water."

Dupuytren possessed that species of eloquence which classical authors term deliberative. If it was necessary to persuade a patient of the necessity of undergoing a painful operation, in Dupuytren was exhibited on that occasion, how important the gift of language is to a surgeon. He accomplished the expression of Cicero. "Tantam vim habet flexamina atque regina rerum oratio, ut non modo inclinantem erigere, aut stantem inclinare, sed etiam adversantem et repugnantem rapere possit." It was an interesting sight to witness Dupuytren instructing young children how to use their eyes, when he had given them the use of these organs by an operation for congenital cataract. Children in this predicament, instead of using their eyes, are in the habit of stretching out their hands, like animals destined to live in darkness. Our surgeon, however, fixed their hands behind their backs, and standing at the extremity of the ward with the patient at the other end, and in presence of the students, he would call out, "Run my little fellow." This he could not do, but he walked and soon reached the restorer of his sight. These are traits in his character, which can never be erased from the recollections of his students. It has been said that Dupuytren disliked men, and that he never loved any body. It was impossible for any one who had seen him caress the little children in the circumstances mentioned, to give credit to such statements. Even the enemies of Dupuytren, granted that he excelled in high degree in forming a diagnosis.* The following fact illustrates

* He would certainly assert his superiority in this way, at times, when any one aspired to be ranked as his equal; but of others he would not wantonly expose the errors. He was more willing to aid than to chide the unassuming.

* His confidence in his own diagnosis was unlimited and inflexible. In consultations, Mr. King has known him stand alone in an opinion, and at last obtain permission to prove its correctness by an operation, which, if it had not fulfilled his predictions, would have gone far to ruin him. And thus, and not by idle boasting, he obtained a reputation which nothing could shake. How he silenced his opponents they well can bear witness who saw him plunge a knife many inches deep in the lumbar region, to let out pus, which, contrary to their opinion, his seldom erring touch had detected there.

this in a striking point of view. A man had received a considerable time before he applied to Dupuytren, a blow on the head. The original accident was not severe, but nervous symptoms subsequently appeared, which obliged him to apply to a surgeon. Dupuytren having examined the man, said to his assistants, "Have the trepanning instruments ready to-morrow." The students were astonished at this decision, as the symptoms did not appear to them to require such a serious cure. But Dupuytren had detected (or divined some might say) the presence of an abscess in the cerebral matter. The bone was swan through; no diseased appearance was exhibited; the dura matter was healthy; it was cut through and still no disease appeared. It was then that Dupuytren, with a degree of boldness which has seldom been equalled in the annals of surgery, plunged a bistoury into the substance of the brain. An abundant discharge of purulent matter was the consequence!

The diagnosis of abscess in the iliac fossa is a difficult matter, yet Dupuytren gave admirable rules for detecting it, and by this means saved the life of a commissary. Numerous other instances of his diagnostic powers are well remembered. A lady had been treated during several years for cancer of the uterus. A surgeon of distinction had so designated the disease. Dupuytren was at last consulted; he declared that the disease was polypus, and that an operation would be attended with perfect success. He operated, and in three days the lady went to the opera.

A woman was admitted into the Hotel Dieu with considerable swelling of one of the tonsils. All those who saw the woman before the arrival of Dupuytren, considered the case to be one of simple inflammation of the gland. He came and gave it as his opinion that a cyst existed in the tonsil, and that there were other cysts in some part, more or less distant from the throat, which had a great tendency to inflame by a kind of sympathy which united them. The cyst was removed to the great astonishment of those assembled. Next day erysipelas of the face appeared, and pain in one of the kidneys. "It is in this organ," said the great surgeon, "that the second cyst exists; it is inflammed, and we are in danger of losing our patient;" a circumstance which happened notwithstanding the best directed treatment.

The inspection after death confirmed the accuracy of his diagnosis.

It has been said that Dupuytren gave his diagnosis always with great rapidity, and some gave credit to the idea of his infallibility.

In many cases, it is well known, that a single glance was sufficient to satisfy him of the nature of the disease. A few days before his death, a man was brought to him with a dislocation of the elbow joint; he did not touch the patient, but declared that displacement of the articulation existed. A distinguished surgeon denied that it was a dislocation. M. Sanson, however, examined it, and reduced it. But Dupuytren did not always give his opinion so readily, which shews that what some considered instinct, was in him the result of a series of reasonings.

When he examined a dislocation of old standing, and of which the diagnosis was difficult, he did not prolong his examination beyond the usual time, but he spoke of the circumstance, neither in the wards nor in the theatre. Next day the patient was examined, and if the disease was not recognized, silence was preserved. But on the day when Dupuytren could touch the luxation with his finger, an excellent clinical lecture was delivered. He spoke then of the patient as if he had seen him for the first time, and in the most positive manner, established the diagnosis, the treatment, and the prognosis of the disease. Dupuytren seldom expressed his doubts to his audience. If he doubted, it might be assumed that he was giving utterance to a certainty. When he explained his diagnosis he never followed out the steps of his reasoning, which have him a degree of superiority, but did not satisfy. Vidal remarks, that it would have been preferable if the professor had communicated his doubts, and thus have exhibited a view of the intellectual process by which he arrived at his conclusion. But perhaps he did not consider it political to initiate others into his thoughts.*

To those who reproached him for speaking sparingly of his mistakes in practice, it has been answered that he committed few. He perhaps supposed that some of his friends would undertake this trouble for him; but such an exposure comes best from one's own mouth. M. Roux and M. Marjolin are always in the habit of stating their unsuccessful cases, and have consequently established for themselves characters of candour, which is of the greatest consequence in a teacher. Vidal, however, states, that he has often heard Dupuytern confess his errors, when he was not required to do so.

If he overlooked his own errors, it is also certain that he was as lenient in public to his contemporaries, which some have explained. by saying that he only spoke of himself, and never mentioned at the Hotel Dieu the names of other surgeons. This, however, is a great mistake, for although he preferred his own experience of that of others, yet he often mentioned in his lectures, Sir Astley Cooper, Scarpa, and Boyer. His mode of mentioning these great surgeons, shewed what he thought of his contemporary in Britain, of the talents of the professor of Pavia, and the veneration which he had for the author of the "Traité des Maladies Chirurgi-

* This observation is not considered just by Mr. King. For, it was, in fact, by teaching so well how to form a correct diagnosis that he attracted so large an audience; and he spared no pains to explain this difficult art, in a manner, which, while it instructed the experienced practitioner, had so much method, clearness and simplicity that it could be easily followed by the student.

cales." No one appreciated the good sense of Boyer more than Dupuytren.*

It was in the operating theatre that Dupuytren shone most, where the most distinguished surgeons of all countries have been seated around him, where he taught surgery with dignity, where no vulgar pleasantries or brutal expressions were ever uttered by him. In his clinical lectures, he explained facts with the greatest clearness, and with such a number of details, as to surprise even those who continued to attend him for a long period. When he had developed a fact, he compared it with analogous cases which had occurred in the Hotel Dieu, or in his private practice, and thus proved that he had seen much, and that his experience was accompanied with practical benefits. For among the higher classes there are modifications of disease which differ from those among the poorer class, and there are complaints which follow from the indulgence in luxuries. Dupuytren was the surgeon of the rich and the poor, and he knew how to make his experience in both ranks bear upon the developement of facts,

Dupuytren did not possess the manual dexterity which is so much admired in M. Roux; but his knowledge of organic structure, his talent for diagnosis, enabled him to establish the indications with certainty, and to seize the means of preventing accidents, and of overcoming them when they occurred. He knew well how to calculate the strength of the vital powers. There are some surgeons who can perform operations with skill, but who do not know when to avoid them. Dupuytren possessed both these talents.

A circumstance which gave an awkward appearance to Dupuytren's mode of operating, was his anxiety to give clinical instruction to the students. For example, in amputation of the mamma, instead of placing himself before the patient, he often stood behind her, in order that he might not obstruct the view of the students. He frequently departed from the common rules, from mere caprice, or from forgetfulness, or perhaps even from ignorance of these rules. He not only chose the most favourable position for the spectators, but he also explained the different steps of the operation as he proceeded, which shewed great coolness and presence of mind. But his greatest talent was displayed when unexpected accidents occurred during an operation. The operation was never in the least retarded by such an exigency; a new plan was immediately devised, and if the surgeon did not inform the spectators of what had happened, the latter would have been quite unaware of it. But he never allowed an opportunity to pass of exhibiting the utility of his new plan.

Vidal only once saw him lose his presence of mind. He had to extract a very large calculus: he considered a long time how he should proceed. He appeared to adopt the idea of cutting the fundus of the bladder; but still he hesitated. At last what was most extraordinary, he allowed himself to be influenced by the advice of another surgeon, who advised him to combine the bilateral with the recto-prostatic incision. He operated, but did not succeed, for the calculus was not extracted till next day. On that day, Vidal observed his lower lip to quiver, and his cheeks to change colour several times, and this because the school disapproved of his mode of operating. It was said, why did he not stop when he saw the difficulties of the case, and finish it by several steps, placing the patient in the intervals in the bath? Franco, Camper, Louis, &c., have given examples of this method of proceeding, even when there was no necessity for it. After operating, Dupuytren held a consultation for the benefit of his patient. It was a kind of clinical lecture, in which he heard the opinions of the advanced students. This ought to have fatigued him. But if in departing from the hospital, a journalist who had not obtained sufficient matter for an article, came up to him to request some, Dupuytren did not remain, but in his walk prolonged his lecture, so as to allow the writer to take hasty notes. Vidal has seen Dupuytren dressed in plain green when the snow was on the ground, walking along the bridges and dictating to M. Paillard, who accompanied him. Thus many lectures which have been published, as being delivered at the Hotel Dieu, were actually produced on the Pont Neuf. But Dupuytren was always a professor, in the transactions at the Faculty, at the Academy of Medicine, and even at the Institute.

In 1825, he was admitted a member of the Academy of Sciences. In July, 1830 he distinguished himself most conspicuously by his attention to the wounded, and delivered some excellent lectures upon gun-shot wounds, which have been reported and published by his students. Dupuytren occupied the situations of Inspector of the University, Surgeon to Louis XVIII., and Charles X. He was an Officer of the Legion of Honour, and a Baron. His name was extensively known, for he had attained the summit of his profession. At last his constitution began to fail. About November, 1833, symptoms of hydrothorax appeared, Dupuytren still however continued to appear in public with his usual regularity. M. Bouillaud (to whom with Husson, Cruveilhier, Marx, and Sanson, Dupuytren entrusted himself) has eloquently described the death-bed scene of the great surgeon. "After tedious and painful suffering Dupuytren saw that all hope of cure was at an end; he resigned himself then with the most stoical fortitude, and preserved till the last moment, all

* He was by no means lavish in his praise, but it was not easy for him to be unjust to those who had distinguished themselves in that field by which he rose to eminence himself; for, to use his own words, the name of *Concours* caused his heart to beat with emotion. An instance of this feeling is afforded in his conduct to Mr. King, who was elected house-surgeon to the Parisian hospitals by a public *Concours*. Dupuytren was one of the jury. Previous to the trial he had shewn himself averse to the admission of foreigners, as candidates; but, afterwards he became favourable to it, and declared that, in this case, he deemed the appointment so well gained, that he would add to it whatever services he could fairly render Mr. King. And in this he kept his word.

his presence of mind and his clearness of judgment. He never uttered a word expressive of the slightest weakness. During an agony of eight days he remained completely master of himself. Each instant of his life during this painful and tedious martyrdom, seemed miraculous to those who were near him. Death appeared to hesitate to strike so great a victim, and to destroy an organization which nature had so strongly moulded." Notwithstanding his great capacity for diagnosis, Dupuytren remained long in doubt of the presence of fluid in his chest, and when he was convinced of the fact, he considered that the liquid was contained in cysts. This was the reason why he refused to undergo an operation, twelve days before his death, when urged to it by M. Sanson. Until the fourth day previous to his death he entertained a spark of hope. Sometimes even he believed his health re-established. Nature at length entirely failed, and the distinguished Baron breathed his last on the morning of the 8th of February, 1835, about half-past 3.*

If distinction as a surgeon depends upon original invention, as in the cases of Paré, Franco, Hunter, and Pott, then Dupuytren cannot lay claim to it; but he was an excellent clinical professor, and has made a great many good surgeons who are distributed over different parts of the world. He has endeavoured to simplify the study of surgery by making it less mechanical, and at the same time more successful.† He wrote papers upon different professional subjects.

1. SURGERY.—The memoir of Dupuytren upon the artificial anus constitutes his principal scientific work. It forms a happy application of the principles so well developed by John Hunter.

In 1815, he read to the Institute a memoir upon ligature of the arteries, substituted for amputation of the limbs in cases of fracture, complicated with aneurisms.

He also wrote upon the ligature of the arteries, practised according to the method of Anel, in certain cases of division of these vessels produced by lightning.

In 1816, he read to the Institute a paper on the ligature of the principal arterial trunks. The other surgical writings of Dupuytren were upon congenital dislocations of the femur, and old dislocations in general, on retraction of the finger and strangulated hernia. He edited the new edition of Sabatier's work.

2. PATHOLOGICAL ANATOMY.—Under this head may be mentioned, his numerous researches in the bulletins of the faculty of medicine, relating to cellular, mucous, cartilaginous, and osseous transformations, on fibrous, fatty, incysted products, and on scrofulous, cancerous, and schirrous degenerations.

In his *researches on callus*, published in 1831, he endeavours to shew, that in consequence of fractures, there are two kinds of callus formed, temporary and permanent. In 1803, he published *observations* on false membranes, where he investigates the causes, progress, expulsion, or organization of false membranes, the advantages and inconveniences, of their formation from inflammation in the serous, sinovial and mucous membranes.

3. ANATOMY.—His *Observations on the spleen* shew that animals may live, exercise their functions, re-produce their species, although deprived of this organ.

In 1803, he published, *Investigations on the Veins of the Bones.*

Observations on the fibrous tissues. He divides these structures into white fibrous, non-elastic tissues, and yellow elastic tissues.

His *Researches on the erectile tissues* were published in 1816.

4. PHYSIOLOGY.—EXPERIMENTS ON THE NERVES OF THE TONGUE. These demonstrate that some of the nerves of the tongue are destined for the purposes of motion, and others for those of sensation.

MEMOIRS IN THE MOTIONS ON THE BRAIN. This work shews that the two motions observable in the brain are the result of the influence of the circulation, and of the respiration on this organ.

Analysis of the Chyle, 1803.

EXPERIMENTS ON THE INFLUENCE EXERCISED BY THE NERVES OF THE 8TH PAIR, OF THE RESPIRATION OF ANIMALS.—(Memoir the Institute, 1812.)

EXPERIMENTS UPON ARSORPTION.—In this paper it is proved that bodies are more readily absorbed in proportion to their irritating power; that their first effect is to increase exhalation, the second to augment absorption, and the third to produce inflammation, and that substances are always altered in their state and nature, before being absorbed.

5. MEDICINE.—*Experiments on Diabetes Mellitus.*

RESEARCHES ON THE AIR OF COMMON SEWERS.—He considers its composition to be sulphuretted hydrogen, disengaged by the putrid matter and azote, resultingfrom the decomposition of the air of ditches.

Dupuytren also wrote on yellow fever and cholera, and the biographies of Corvisart, Pinel and Richard.

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* Dupuytren possessed a remarkably fine person and strong constitution. The decline of his health was sudden, and unexpected by his friends, and, therefore, the more painful to them. By his physical strength and mental power he seemed predestined to a green old age. He could go through immense bodily exertion: his mind was ever active; and, up to a recent period, he had scarcely known a day's illness. The cause, the great cause of his fall, was an extremely irritable temper. This was a scource of unceasing mental suffering, and his nervous system, at last, gave way under it. This was his great misfortune; for, after the death of such a man, we say *misfortune* rather than *fault*. It made him insupportably capricious and inconsistent, and often impelled him to rash and wrong acts, which, on reflection, in cooler moments, he would fain have recalled.

† He is said to have left his daughter, Madame of Beaumont, a fortune of nearly 7,000,000 of francs, (about £296,000), and, besides, 200,000 (£8,333) to found a Professorship of Medico-Chirurgical Pathology; and 300,000 (£12,500) for a House of Retirement for Twelve Superannuated Medical Men.—EDIT.

DUPUYTREN.

Bon Jupouytren.

Printed by T. Black Asiatic Lith: Press Calcutta

According to his request, his body was examined 32 hours after death, on the 9th of February. The following dimensions were obtained in measuring the head :—

From the frontal prominence to the occipital protuberance ..	$14\frac{1}{9}$	inches.
Circumference of the head by the frontal and occipital protuberance	$22\frac{3}{4}$	,,
From the anterior part of one meatus auditorius externus to the other, passing over the head	$13\frac{3}{4}$	,,
Occipito nasal diameter	$7\frac{1}{2}$	,,
From the frontal prominence to the root of the brain (height of forehead), nearly.....	4	,,

The cerebrum, cerebellum, annular proturbeance and medulla oblongata. weighed together $3\frac{3}{5}$lbs. troy.

The cerebellum by itself weighed $4\frac{11}{20}$oz.

In the right corpus striatum without the optic layer, there was an excavation with brown sides, capable of holding a filbert. In the corresponding possession on the left side, a similar *apopletic* cavity was detected. These were crossed by cellular bridles.

A trochar being plunged into the chest, on the right side, above eight English pints of a milky serum escaped. Some fibro-cellular bridles were observed in the right cavity of the chest, at the bottom of which a membranous mass existed, resembling concreted albumen. The pulmonary pleura had a milky appearance, The tissue of the inferior lobe of the right lung was condensed, as if converted into flesh ; the cells contained no air, and the lung sunk in water. The middle lobe, and the lower portion of the superior lobe were infiltrated with a slightly reddish serum. The superior part of the lung alone crepitated, and contained a very great quantity of air.

The left side of the chest contained at the lower part, about an English pint of transparent serum, coloured by a few drops of blood. Some old organized adhesions were observed. The left lung was of its usual size, was slightly infiltrated, and did not fall to the bottom of water. The pericardium contained only a few drops of serum. The heart was hypertrophied, well formed, and surrounded with a very great quantity of fat. Its tissue was soft, brownish, and appeared to be decomposing. The internal surface of the aorta, and of the large arteries, was covered with yellowish fibro-cartilaginous points, all, however, unossified. The coats of the arteries were thick, and hypertrophied like the heart.

The rest of the organs seemed to be healthy, except the kidnies, which were smaller than natural and contained some sand.

MEDICAL TOPOGRAPHY OF INDIA.

COMPILED FROM VARIOUS WORKS AND MANUSCRIPTS

BY

THE EDITOR OF THE INDIA JOURNAL OF MEDICAL AND PHYSICAL SCIENCE.

ARRACAN.

From a very able paper of Dr. Stevenson's in the transactions of the Medical and Physical Society of Calcutta, we learn that "the country of Arracan, previous to our taking possession of it, was little known to Europeans ; and all that can be here attempted is to make a few such general remarks on its medical topography, as our limited opportunities for observation have afforded. Its form is somewhat triangular, of which the Naaf river may be considered as forming part of the base, and its mean breadth may be 45 miles. Its western side is washed by the Bay of Bengal, and its eastern bounded by a lofty range of mountains, which divides it from the kingdom of Ava.

These mountains extend nearly north and south, and declining in the latter direction, gradually approach the coast towards the extremity of the province. Other detached ranges of an inferior description traverse the interior of the country, but vary a little in their direction from S. to S. W.

The country consists chiefly of low marshy land, overrun with jungle ; but presenting here and there a cultivated plain, skirted with wood, and more or less surrounded with water. The soil in general is argillaceous ; but in the neighbourhood of the hills, and by the sides of rivers, lakes, and nullahs, a rich loam prevails.

Of the rivers which intersect the country, the Mayoo, Kaladyne, Arracan, Mongee, and Lemonkrong, are the chief. The Mayoo is the most northerly, and running in a S. W. direction along the base of an extensive range of hills, empties itself into the Bay a little to the north of the Arracan river.

The Arracan river arises among the hills which invest the capital, from which it takes its name ; and by its numerous connecting branches with the Kaladyne on its north, and the Mongee on its south side, the centre of the province, through which these all flow, is rendered a complete mass of little islands. In their progress, these rivers become more concentrated, and ultimately may be said to discharge their contents into the Bay through the common channel of the Arracan river. The Lemonkrong, or Lembroo, as it is also called, is the largest river in the southern division of the province ; and after a wind-

ing course inclining to the N. W. it flows into the Bay among the numerous detached rocks which extend along the coast, between Ramree and those high insulated hills to the north of the Arracan river called the Broken Islands. A branch of it passes Talak, and communicates with the smaller rivers to the south. These rivers, all intimately connected with each other, are greatly under *the influence of the tides;* and their banks, but especially those of the innnmerable nullahs connected with them, are low and shelving, covered with mud, and often emitting exhalations of a most offensive nature. This is particularly the case in the vicinity of the capital.

The capital of Arracan, situated in 20° 35′ 15′′ N. Lat., and Long. 93° E, is distant about 30 miles from the coast, and is surrounded by hills, with very little interruption. Its defensive works, which extend along these, have been estimated at ten miles in circumference. Among these hills are situated several lakes and marshes; and communicating with them, nullahs flow in and about the town, whose banks, in general low and muddy, are on every increase of the tide overflown to a considerable extent. Mr. Hamilton informs us, that in the vicinity of Arracan, the river of that name expands into a noble sheet of water; but owing, we may suppose, to the extensive alluvial depositions which have since taken place, no vestige of this is now to be seen, but here and there the expansion of a nullah amid the low, but dense, jungle which bounds to the extent of many miles the western side of the capital.

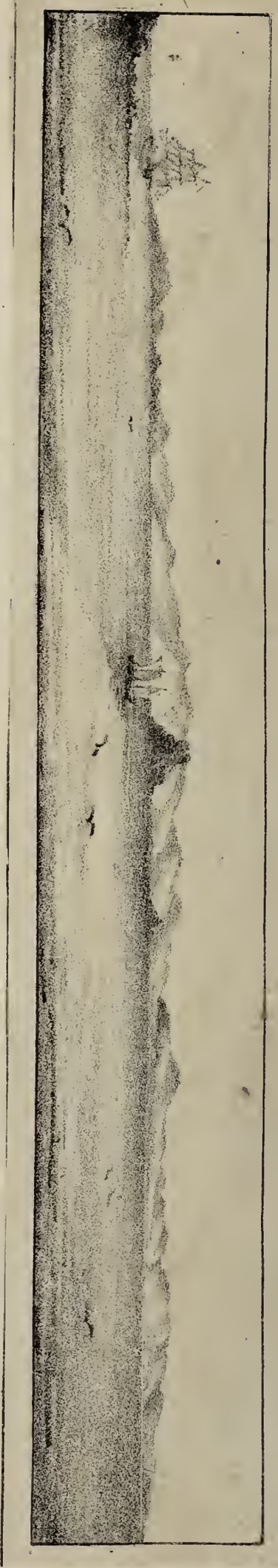
Towards the southern extremity of the province, the country assumes a more pleasing aspect. The little hills are less rugged and abrupt, the soil is more dry and sandy, and the plains and sides of the hills afford good pasture for cattle. On our entering Arracan the capital, no quadrupeds were to be seen, with the exception of a few, kept apparently more as objects of curiosity than utility: whereas on our arrival at Sandooway, the chief town in southern division of the province, we found abundance of cattle, apparently owing to the superior nature of the country.

"The islands of Ramree and Cheduba, dependencies of Arracan, both lie in part within the 19° N. Lat. The former, styled by the natives The Island of Rain, is separated from the main only by a creek. It is mountainous and jungly, and the town of Ramree resembles Arracan, in situation and every respect, save in extent. If it is at all more healthy, that must be referred to its vicinity to the sea.

Cheduba is more completely insulated, and also more extensive. It is rather a low Island but dry and sandy, pretty free from jungle, and healthy.

The little island of Akyab, at the mouth of the Arracan " river, resembles Cheduba on a small scale.

Before proceeding to notice the several places in *Arracan*, it will be as well to advert to the fact that about two centuries ago the Portuguese had considerable dominion and



OUR FRIEND WM. PRINSEP, ESQ., HAS KINDLY FAVORED US WITH SOME SKETCHES OF THE COAST OF ARRACAN.

AMHERST ISLAND FROM CHEDUBA STRAITS.

authority in this country. The manners and customs of the aborigines, it is natural to suppose, must have been much influenced by those of the European settlers. We shall, therefore quote some Portuguese authors, little known to modern popular writers on the history of British India, and on the power of the Portuguese in these parts. This history will teach a moral worthy of notice, that nothing but equitable and beneficent Governments can secure stability to any foreign power. Beginning then with the authorities we have alluded to, the geographical description of Arracan is thus given. "This country is variously denominated by authors; some call it *Arakan* or *Arrakan*; others, *Orrakan* and some, as *Bernier*, *Rakan*. Some terminate it with an *m* instead of an *n*, according to the *Portuguese* orthography. *Fitch* calls it the kingdom of *Rakam* and *Rame*,* as if two monarchies had been united in one. *Bernier* likewise styles it *Rakan*, or *May*†; which last, probably, is an abbreviation of *Rame*. *Tossi* sometimes names it the empire of *Mogo*, or *Moghi*, which was a title then newly assumed by the king, on account, as that author supposes, of his conquests over the emperor of *Pegu*, to whom he had before been tributary‡. But this must be a mistake, for *Fitch*, who was at *Pegu* in 1586, says, the people were named *Mogores* (A), or *Moghen*§; so that this title was taken from his subjects, and not his conquest, or rather seizure, of *Pegu*, which did not happen till the year 1600.

Arrakan is situate to the south of *Tipra*; and has on the east the kingdom of *Ava* and *Pegu*; on the west it is bounded by *Bengal* from which it is separated by the river of *Chatigan* and gulf of *Bengal*. It extends from 16 degrees 30 minutes to 24 degrees of latitude; that is about 510 geographical, or 586 *English* miles, whereof 380 are sea-coast, reaching from cape *Negrais* in the south, to *Chatigan* in the north. Its breadth northwards is about 210 miles: but, from *Chatigan* southward, it decreases gradually to cape *Negrais*; where a very few miles measure it from west to east. Formerly the bounds of *Arrakan* were more extensive, as having comprised not only the kingdoms of *Assaram* (B), *Tipra*, and *Chakomas*‖ (C) on the north but also that of *Pegu* on the south.

The sea-coast, though of great extent, is inhabited but in a few places, where they are able to defend the products of the ground from the ravages of wild elephants, or buffalos; and their cattle from the claws of numerous tigers, who would soon lay all waste, should the people attempt to settle in that part. However, the islands being out of their reach, some of them are inhabited by poor miserable fishermen; who lead a wretched life, though with liberty. There are abundance of islands on the *Arrakan* coast, which all lie close to the shore, excepting the *Buffalo* isles: these lie about four leagues off, and have good navigable channels between. There are two islands of the name of *Negrais*, the greater and lesser; this last, which makes the point called the cape, is small and low, barren and rocky: it is often named *Diamond Isle* (D), because its shape is a rhombus. Both of them are environed with dangerous rocks; and three leagues to the south of *Diamond Isle* is a reef of sunk rocks, called the *Legarti*, or *Lizards*, a league long, but discoverable by the breaking of the sea. The tides along this coast are remarkably strong and high*. They rise twelve or fifteen feet in the rivers, and to eighteen or twenty during the spring-tides: at which time, by the rapidity of the currents in the ebb and flow, ships perform great voyages in a short time; and both go and return in the same day†.

The air of *Arrakan* is very good; the inhabitants are not troubled with pestilential diseases. The country abounds with meadows and pasture-lands, well watered with rivers and brooks; the plains are exceedingly fertile, and the mountains green. The number of orchards and pleasure gardens is infinite: they are also green and pleasant all the year round; although, during the winter, which holds from *August* to *October*, you have almost continually moist and rainy weather, accompanied with storms. To make amends, the summer which succeeds is charming; and then they gather in their harvest. They have all the vegetable necessaries of life in abundance, excepting wheat and rye. Instead of bread they boil rice, till the water disappears, and it becomes a solid mass. As to the air; though the country lies in so warm a latitude, yet it sometimes freezes to such a degree when the north-east wind blows, as it did in *January* 1661, that they were forced to cut all sorts of oils with a knife‡.

(To be continued.)

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* Fitch apud purch. pilgr. vol. ii. p. 1736.
† Tom. i. p. 245.
‡ See Oving. voy. p. 553, and 582.
§ Fitch, ubi supra.
‖ Oving. p. 564.
vol. ii. p. 29, et seq. Holl. tom. vi. p. 242.

(A) *Fitch* seems to confound the *Mogores*, or *Mogols*, with the *Moghen*, from the similitude of names: for he places the *Great Mogor* in *Hindustan*.

(B) By *Assaram*, probably, is to be understood *Assam*, or *Assem*.

(C) By *Chakomas*, is, probably, to be understood *Jangoma*, which *Floris* calls *Jagomay*, or *Jagoman*.

MEDICAL AND PHYSICAL SOCIETY'S MEETING.

Saturday Evening, March 5, 1836.

J. Langstaff, Esquire, First Member Medical Board, in the chair.

Present Mr. Garden, Dr. Dempster, Mr. Egerton, Dr. O'Shaughnessy, Dr. Login, Mr. Hutchinson, Dr. Goodeve, Dr. Stewart, Mr. Wrightson, Mr. Hunter and Mr. Corbyn.

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* Hamilt, new acc. East India.
† Schouten ap. Recueil. voy.
‡ Schouten, p. 223, 228, 230.
(D) This seems to be a mistake: for *Diamond Island* is another, about seven leagues south of *Little Negrais*.

James Stewart, Esq., M. D, Bombay Establishment, Surgeon of His Highness the Nizam's Cavalry, was proposed as a Member of the Society by Dr. Login, seconded by Mr. Garden.

Dr. Goodeve stated that he had communicated the result of last meeting's discussion to Mr. Raleigh and had received the letter which he now begged to read in reply (this letter will be found in our last number page 163). Dr. O'Shaughnessy remarked that the subject could only be brought before the Society in the form of a resolution and then be discussed.

Mr. Langstaff rose and said that he had never for a moment supposed that by putting his name to the circular on the subject of Mr. Raleigh's admission without going through the form of ballot, he sanctioned that document as one officially emanating from the Committee of Management.

Mr. Garden remarked that the President had not only affixed his signature to the circular but actually commented upon the question which in his opinion at once gave that document its official stamp. He therefore thought it ought to be received by the Society as such.

Mr. Langstaff in reply said that he had been taken by surprise when he attached his name with remarks to the paper; but by so doing it was never his intention to recognize the document as official.

Dr. O'Shaughnessy thought that the Society was not to act upon quibbles. The president's disavowal of his intention to sanction the circular as official, ought to be sufficient evidence on that point.

Mr. Langstaff declared that he had written nothing in the paper which amounted to a recognition of the document as one proceeding from the society.

Mr. Garden begged to assure the meeting that he was far from desiring to put any other construction on what the president had written than the words themselves imported, but that he had heard nothing to induce him to alter his opinion as to the validity of the circular.

Mr. Egerton hoped that the discussion would now cease; he regretted that the argument of Mr. Garden's would force upon the president intentions which were so openly disavowed.

Mr. Garden was sorry to interrupt Mr Egerton, but he begged it to be understood that he intended no disrespect to the president. He was right however to settle the point how far sanction had been obtained on which the question of last meeting hinged.

Mr. Egerton proceeded to divert attention from the subject under discussion by alluding to a letter he had received from the upper provinces on the subject of a snake bite. A goat had been bitten; and the milk of the animal given to the family, the head of which was affected with sickness; he shortly after quitted home to which however he was soon recalled and informed that the children were likewise attacked with sickness as well as his wife. Mr. Egerton was about to discant on the remarkable circumstance of the venom of the serpent being communicated to the family through the medium of the goat's milk, when Mr. Garden rose and said that however interesting the subject mooted by Mr. Egerton might be, he considered it irregular, while the subject of Mr. Raleigh being admitted without ballot remained unsettled

Mr. Hutchinson thought it was better not to enter on the subject of Mr. Raleigh's letter. That gentleman having been re-elected, it was optional with him whether he returned or not. Mr. Hutchinson then adverted to his not having voted on the circular when it came to him.

Mr. Garden said, he had conversed with no one on the subject of the circular; he had read the report in the Medical Journal, and was entirely guided by that report.

Mr. Hutchinson said he objected to the reports by Mr. Corbyn in his journal being received as authority. He could if a copy of the last number were handed to him point out 5 or 6 inaccuracies *

Dr. Goodeve now said that in conformity with the resolution he begged to lay before the meeting the report of the Committee of Management on the subject of printing extracts from periodicals and circulating them to Mofussil subscribers. He then read the following report.

Extract from a report of the committee of management laid before the Society on the 5th March, 1836.

Resolution proposed by Mr. Egerton and seconded by Mr. Dempster, carried on the last meeting of the Society, the 6th February, 1836.

That the Committee of Management be directed to enquire into the expediency of resuming the publications of the monthly selections from periodicals, together with an abstract of the minutes of the meeting.

Pursuant to the foregoing resolution, the Committee beg to submit the following statement of the Society's accounts and estimate of the probable expense of the proposed objects.

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* The reports were authenticated by all the speakers excepting Mr. Egerton who did not alter the gally proof which we sent to him. We also sent gally proofs to all the other speakers including Mr Hutchinson before the report was published. Mr. Hutchinson wished us to erase some observations of Dr. Stewarts which we were not authorized to do.

THE PRESENT LIST OF MEMBERS.

Resident Members	27
Mofussil ditto	229
Total	Rs. 256
Giving a yearly Subscription of	1284
Ditto	5496
Total	Rs 6780

Memorandum of receipts and expenditure for the last year, ending December, 31st, 1835

Balance in the Union Bank, 1st January 1835	Sa. Rs.	940 15	1
Received during, ditto	,,	4712 3	7
Total	Rs	5653 2	8
Paid during 1835		3151 13	9
Balance		2501 4	11
Due to the Society Subscription for 1834	Sa. Rs.	2396 0	0
Ditto 1835	,,	3704 0	0
Total		6100 0	0

From this statement it will appear that the receipts of last year including the balance in the Union Bank for 1834, exceeded the expenditure by Rs. 2601 8. That the present yearly subscription would amount to Rs. 6790 (if regularly paid) but that such is not the case the balance due for the last years will shew, viz : Rs 6,100. A great proportion of this sum may doubtless be considered good, but it can only be realized gradually and whilst it is in course of payment, similar debts will be incurring for the current year.

It will be seen that the expenditure last year was Rs. 3,151 viz.

Revd. T. Pearce for publication of Transactions	1349
Sundries	162
Dr. Burlini	1640
Total	Rs. 3151

This may be considered a fair average amount. The first article contains only Mr. Pearce's bill for printing, and the expense of forwarding the publications to the Mofussil Members. There were no drawings in the last year's Transactions, whilst this year the lithographization of prints will form an extra charge. There are two prints in the forthcoming number the cost of which will be 130 Rs. And if the same sum be allowed for the next number it will amount altogether to 260 per annum.

Neither is the bill for periodicals, &c. included in the last year's charge.

The list of periodicals taken by the Society is as follows.

	£	s.	d.
Cyclopædia of Anatomy, monthly at 5	3	0	0
Ditto of practical medicine do..	3	0	0
Edinburgh Medical Journal quarterly at 6	8	4	0
Johnson's Review, do. do. do....	1	4	0
Lancet, 2 vols. 21 annually.. ...	2	2	0
London Medl Jour. monthly at 2-6	1	10	0
Do. do. Gazette ditto..... at 1	0	12	0
Do. do. review (not known)....	0	0	0
Medical Chirurg : transactions annually about	0	10	6
£	12	14	6

Forming an extra yearly expense of Sa. Rs	127 0 3
Giving a total average of Rs. 3500	

Now the cost of publishing the selections and abstracts of proceedings as given in by Messrs Smith and Co.'s estimate is 3 Rs. per page of the same size as those of Dr. Corbyn's Journal * If we should publish 20 pages this will amount to 60 Rs. per number, or 270 Rs. annually, exclusive of the expence of postage. If the journal be sent by dawk banghy to the principal stations, this charge would probably amount to 250 Rs. yearly.

It must also be remembered that Medical Societies similar to our own have lately been established at Madras and Bombay which may shortly influence in some measure the state of our receipts.

The Madras Members are	38
The Bombay Ditto	36
Giving a total of	74†
Whose Subscription amounts to	1776

On the other hand it must be considered that the Mofussil members may have a right to complain that those only who are resident in Calcutta derive any benefit from the periodicals and library of the Society, and that they, the Mofussil members obtain no corresponding advantage for their yearly subscription. It becomes therefore important to determine whether some effort should not be made to remedy this evil.

The committee therefore beg to recommend that an appeal be made to the subscribers earnestly requesting them to pay up their arrears and stating the object of such an appeal, and that as soon as satisfactory replies are received, a journal be published either monthly or quarterly as it may be deemed expedient.

* This of course excludes paper &c. we pay Messrs. Samuel Smith and Co., 3-4 per page.—EDIT.

† This last paragraph read at the meeting, is not to be inserted in the circular we believe.

It appears to me that considering the great amount of subscriptions in arrear, and the probability stated of a falling off in the number of the Madras and Bombay members, it would be unseasonable at present to determine on or for the committee to recommend any new undertaking so extensive as that in question. I still think, however, that the non-resident Members have a right to expect a portion of the funds of the Society to be expended on them, and that as soon as the arrears of 34 and 35 are paid I would propose the publication of selections to be resumed.

J. LANGSTAFF

I concur pretty generally in Dr. Langstaff's remarks, though at the same time, I think, that a quarterly edition of Selections should be undertaken immediately for the benefit of the Mofussil subscribers.

H. S. MERCER

I think there is a great deal for reflection in Dr. Langstaff's remarks, at the same time I think that if a monthly Journal of Selections, or even a quarterly one of 50 or 60 pages were commenced on, and an appeal made to those in arrear, that the balance due to the Society should speedily be paid up, *entirely paid up*, as it always was in Mr. Twining's time; no expense in postage need be incurred; for members' copies might be lodged with Thacker and Co. and those who liked to send for them could do so. I vote for trying the Journal monthly or quarterly for a year; if in that time our funds run short we can easily call a halt and in this respect we ought rather to economise than withhold any advantage from the mofussil members. Our monthly expenses ought never to exceed 100 rupees.

J. HUTCHINSON.

It appears to me that much as the publication of the selections may be desired, It is hardly possible to accomplish it in the present state of our funds.

H. H. GOODEVE.

I think with Mr. Hutchinson that the experiment of publishing a journal should at least be tried; a simple calculation is sufficient to shew that on the question of funds no apprehension need be entertained.

A monthly journal of 2 sheets (32 pages) would cost at 3 Rs. per page 32+3=96
12

Annual cost.....	Rs.	1152
Dak Banghy charges....	,,	250
Total.....		1402

To meet this, which must be considered a monthly instalment of 121 rupees per mensem, we have debts to the amount of 6,100 rupees of which we may fairly presume that one-fourth or 1525 rupees can be realized by degrees in 12 months on appealing to the Mofussil members whose interests are so materially involved in the proposed publication.

Under all the circumstances I think it would be well to circulate to *all* our subscribers the memoranda relative to the funds, together with the observations of the committee, and be guided by the opinion of the majority of the subscribers as to the expediency of the publication.

A distinct arrangement, however, should first be made as to the editing of such a journal. It will be a matter of much labor and some responsibility, and unless some one is prepared to undertake the duties it is but of little consequence whether we are rich enough to meet the expenses or not.

W. B. O'SHAUGHNESSY.

March 1, 1836.

On mature deliberation I am of opinion that such a publication cannot be undertaken by our Society with any probability of credit, or usefulness, or permanence. The attempt has already eminently failed under the most favorable circumstances; we have no *evidence* of dissatisfaction from the Mofussil, on the contrary, our members are monthly on the encrease. Thirdly, our transactions are enough, nay *all* that mofussil subscribers ever bargained for. And fourthly while there exists a Journal devoted to Medical Science in Calcutta under the management of a resident member, professing and taking a lively, a disinterested, and it must be allowed, an honest and frank interest in the Society, there is no room to fear that our members will cease to take an interest in our proceedings, informed as they now are of all that is said and done at our meetings. Finally, I love not the spirit of opposition with which this is to be got up. I see the mover of the proposition make no offer of assistance in editing, selecting or writing. I see the Secretaries shy of the trouble and responsibility naturally enough, and I anticipate, if the measure be adopted, nothing but signal failure in less than as many months as fill up the measure of woman's hopes and fear.

D. STEWART.

1*st March.*

I fully concur in the above.

A. GARDEN.

Dr. O'Shaughnessy called on Dr. Stewart to substantiate if he could his groundless charge of his (Dr. O'Shaughnessy's) "shying" the trouble and responsibility of *his part* in the proposed Journal; Dr. O'Shaughnessy thought Dr. Stewart should act with more caution in these matters. Dr.

O'Shaughnessy would willingly devote any time he could spare to such an undertaking if the Mofussil members conceived the Journal a desideratum if they did not require it he would be very glad to escape the trouble. Dr. Stewart said that the minutes proved that there had been no volunteers to conduct the work.

Mr. Egerton stated that as there was no resolution before the meeting, he would beg to propose that the Society send a circular to the Mofussil members, requesting their opinion on the expediency of printing a journal of Selections from periodicals, &c.

Mr Hutchinson objected to that proposition, and said that he would suggest as an amendment—that members in arrear be called on to pay up the amount of such arrears, and that it be announced to the members generally, that the Society are about to publish a monthly journal of selections, of two sheets or 32 pages, and that the copies for members will be lodged with Messrs. Thacker and Co. and may be had on application.

Dr. O'Shaughnessy differed from Mr. Hutchinson: he thought that the proposition for printin the contemplated journal should be submitted for the opinion of those members, who were mostly interested in the question; it would be satisfactory to all parties that they should decide.

Dr. Goodeve adverted to the numerous members who had not paid up the amount of their subscriptions, so circumscribed were the state of the funds in consequence, that they would not admit of the Society going to the expense of publishing the work desired; it was true that many of the debts might be realized by dunning the subscribers, an office too disagreeable for him however to undertake to discharge. On the other hand, so far as their onerous official duties in the College would admit of their doing so, Dr. O'Shaughnessy and himself would readily superintend the publication; he thought it was a question to be submitted for the opinion of the mofussil subscribers whether they wished to receive such a publication or not.

Mr. Hutchinson was of opinion that Dr. Goodeve was too desponding as to the success of the publication and of realizing the means of defraying its expense. If such a publication succeeded in Mr. Twining's time why should it not in his?

Mr. Garden took the very opposite of Mr. Hutchinson's views.

Mr. Hutchinson insisted, however, that such a publication of 32 pages might be published at once to avoid further delay and left at Thacker's until sent for: if the publication should be got up, he was inclined to think that he discussions at the meetings might be reported in it, for although he was doubtful of the propriety of reporting at all, there could be no doubt that it would be better that accurate reports should go abroad than the inaccurate ones contained in Dr. Corbyn's Journal.* He thought the intention of calling upon members for arrears of subscription simultaneously with the proposition for the publication of the Journal was impolitic. Mr. Hutchinson's amendment was then put and negatived, there being only one for it.

Dr. Stewart then proposed that the report of the Committee of Management be printed and circulated for the opinion of the mofussil subscribers.

The following letter was then read.

From H Hewith, Esq., Surgeon to the *Zenobia*, forwarding the works of Drs. Clarke and Forbes, which were presented to the Society.

The following works were presented for the library:—

Medical Bibliography, by Dr. Forbes, presented by the author.

Clarke on Diseases of the Chest, presented by the author. Volumes first and second of the *Indian Journal of Medical Science*, presented by the editor.

A very curious specimen of monstrosity, consisting of twin children, joined together by an anterior band, was presented to the Society by Mr. Garden, on behalf of Mr. Galt, Assistant Surgeon, 26th Regiment N. I., and it was forthwith agreed to make over the preparation to the Museum of the Medical College as the fittest place for its reception.

The monster was born of a Mussulman woman at Nursingpore, on the 15th December, 1833. She had had several children before, in whom there was nothing extraordinary. The creature is stated to have lived for some hours after birth. It was formed of two children apparently of the full age, who were extensively united anteriorly at the abdomen and thorax, the connection extended from the upper part

* Now we have never had any other object in taking upon us the labour of reporting and incurring the additional expence of printing than to diffuse the result of clinical practice as elicited during discussion. It was necessary therefore that speakers should not be misrepresented, to prevent which we have been in the habits of sending gally proofs of our reports to the several speakers before publication. We are happy to say they have most readily done as the favour to peruse and authenticate their observations Mr. Hutchinson among the rest. We leave the above version of his remarks therefore which is a correction of our report by himself to speak for itself. But allowing the full scope of Mr. Hutchinson's reasoning and objections how happened it that when we sought permission to introduce one of the most able reporters, who ever came to India, that he opposed our proposition.

of the sternum to the umbilicus. The heads, necks, stocks, and extremities, were perfect in each half. The extreme organs of generation were complete in both divisions of the monster, who was of the female sex. The circumference of each head round the forehead and vertex 11 inches, length of the whole from 15 to 16 inches, circumference of ditto 11 to 12, circumference of the connecting medium from 9 to 10 inches, weight about 5lbs.

Dr Cantor presented an account of two snakes, the Cerberus Grantii and Potamophis Lushingtonii, venomous serpents with fangs behind the maxillar teeth (à crochets postérieurs of the French.)

Dr. Cantor's sketch of an undescribed species of venomous serpent belonging to the genus Naja, was then read, and some exquisite drawings of the reptile executed by that gentleman in illustration of the paper, were laid on the table.

The shape of this serpent's head resembles that of the Naja tripudians Merrem (The Cobra de capello) covered above with nine larger laminæ in 4 ranges, the first of which contains 2 laminæ frontales, the 2nd, two laminæ nasales; 3d, two laminæ orbitales; 4th, two laminæ occipitales, each of the latter surrounded by 2 laminæ postocciptitales, these laminæ as well as the other coverings of the head are drab edged with black.

The muzzle is obtuse with a wide semicircular opening for the tongue, which organ is black, thick and bifercated.

The mouth large, the upper jaw rather larger than the lower, 2 rows of palatan sharp, reflex, distant teeth, two fangs on each side covered as usual in a duplicature of the palatal membrane; maxillar teeth none; two rows of sharp reflex teeth in the lower jaw. The nostrils lateral wide between 2 laminæ. The eyes large, brilliant, iris golden, pupil round. The neck dilatable though in a less degree than that of the Naja tripudians.

The back of the hood is covered with oval smooth scales of an olive green color, those covering the black skin with a black margin, those covering the white, without dark edges. Abdominal scuta of a reddish yellow color, between the two lowest rows appear 2 black spots on each side.

The body is thick, cylindrical, tapering towards the tail, covered with smooth imbricate scales of an olive green color, the interstitial skin partly white partly black, disposed so as to form a number of bands converging to the head. The abdominal scuta are long and broad, bluish grey interspersed with black as they approach the tail. The tail is cylindrical, gradually tapering to a sharp point covered above with hexagonal yellowish green scales marked with black, so that its general appearance is black, divided by yellow rings. Dr. Cantor remarks upon the little confidence which can be placed in the number of the abdominal scutæ and subcandal scutellæ in distinguishing the different species of serpents, and shews the variety in this particular, which he observed in different specimens of the snake under consideration.

The total length of these specimens of this reptile in Dr. Cantor's possession varies from 7 to 10 feet. The circumferences of the body from 6 to 8 inches. The neck from 3 to 5 inches. The natives state that individuals are found upwards of 12 feet long, and at any rate the size is very extraordinary for a venomous serpent. Dr. Cantor's specimens were caught in the Sunderbunds and in the neighbourhood of Calcutta. According to the natives; this serpent usually feeds upon others, and those in Dr. C.'s possession were regularly fed by giving them living snakes once a fortnight without regard to the latter being venomous or otherwise. Dr. Cantor remarks upon the error of those naturalists who say, that serpents never drink; these animals drink and moisten their tongues which with the ophidians, whose tongues, are not situated in the cavity of the mouth, become two different acts. This snake differs from the other varieties of venomous serpents in feeding willingly of its own accord when in confinement, though no other ophidian of this class is known to do so. The latter fact in the history of poisonous serpents, stated by Dr. Russel, is fully confirmed by Dr. Cantor.

Dr. C. considering the strong resemblance between this serpent and the Naja Tripudians in the habitus and anatomical arrangement, though it differs from it in other respects, prefers placing it in the genus Naja rather than to form a new genus. The fresh poison of the snake is a pellucid fluid of the consistence of a solution of gum arabic in water and reddens, litmus paper slightly, and when kept for some time it shews more decided acid qualities; it loses, however, a great deal of its deleterious nature by keeping.

Mr. Egerton observed that the Society were under many obligations to Dr. Cantor for his elaborate paper, and adverted to the period vipers in Europe had existed without eating. With respect to some trials he himself had made on serpents in this country, he had forced food down the throat of one; but he did not think in that instance it promoted the health of the reptile. He also alluded to the fact of having caught a cobra de capello in the act of gorging a rat.

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LECTURES
ON
GENERAL CHEMISTRY
AND
NATURAL PHILOSOPHY.

Delivered at the Medical College, Calcutta.

By W. B. O'Shaughnessy, M. D.

INTRODUCTORY LECTURE.

In the commencement of my second course of Lectures on Chemistry for the pupils of this institution, I cannot but experience the highest satisfaction when I contrast the circumstances of the present occasion with those of the first day on which I had the honor of addressing the classes of the Medical College. On the opening of that preliminary series of lectures, many and seemingly insuperable obstacles opposed the success of my undertaking. In ignorance of the amount of capacity of my pupils, uncertain as to the feelings with which they might regard the science, I was called on to teach them, destitute, too, of the apparatus requisite for the illustration of my lectures, I commenced my duties under the most painful apprehensions. But the experience I have acquired, and the events which have occurred during the past three months, have been amply sufficient to dispel all these forebodings. In the brief course I gave during that period, I found my pupils not only apt and industrious, but literally enthusiastic in the pursuit on which I was leading them. I found them conscious of no difficulty either in the nomenclature or the purposes or manipulation of the science, in short I found them possessed of every requisite a teacher could desire. The deficiencies of apparatus and materials again were but of very brief duration, the Government with its characteristic liberality and zeal for the great cause of education leading the way in supplying every article at its disposal, an example followed in a corresponding spirit by the managers of the Hindu College, and by many private individuals. Under all these circumstances I should be totally destitute of the zealous and warm feelings essential to my situation did I not regard with the utmost gratification the occasion for which we are this day assembled.

Reflecting for a moment on the nature of the audience, I now have the honor of addressing, composed as it is of many distinguished patrons of the cause of native education, of the foundation pupils of the Medical College, and of pupils of the Hindu College, not destined for the medical profession, I cannot but feel that I will best discharge my duty to the entire by explaining the nature, objects and useful application of the science I am appointed to teach, and submitting at the same time to the judgment of my hearers the system of instruction it is my intention to adopt. In explaining the nature of the science, I will perhaps be obliged at first to enter into a few details of an abstract and perhaps abstruse character, but I shall endeavour by experimental illustrations to facilitate the general comprehension of any difficult parts of the subject, and I shall pass from these as rapidly as possible to topics of more general interest.

As the study of Chemistry is but a subordinate branch of the mighty system of science to which the term Natural Philophy has been applied, it will facilitate the object I hold in view, if we occupy a few moments in considering the proper import of these terms.

Natural Philosophy in ordinary language means nothing more than the science or knowledge of natural *truths*. It embraces thus every *fact* in the phenomena of the universe, which our intellect is capable of comprehending and of arranging in similar groups referrable to the same or to analogous causes. These causes may be unknown, but their effects are obvious, so much so indeed that a clue to their proper classification may be found in the indisputable proposition—that all the material masses in nature are composed of indestructible particles or *atoms*, combined or held together by *attraction* of various kinds, and these particles being in themselves *inert* or incapable of changing their state of motion or of rest. These few great truths, as that popular and elegant writer, Dr. Arnott, observes, lead to a ready comprehension of the nature or constitution of the masses of the universe and of the movements occurring among them, and the laws by which they are governed. And even when we

leave the comparatively narrow circle to which a contemplation of mere material and terrestrial phenomena would restrict us, when for instance we investigate the nature of heat and light and electricity and magnetism, and when we ascend to the sublimest of all studies, that of the movements of the heavenly bodies, these truths still point to the readiest path by which our investigations may be pursued with facility and success.

As it is under the head of attraction that Chemistry becomes a department of Natural Philosophy, or of the knowledge of natural truths, I may so far anticipate a subsequent lecture as to enumerate the varieties which the natural force of attraction present. We have thus the attraction of *gravitation* which causes all bodies to move towards each other in proportion to their mass, as substances fall towards the earth, as the tides obey the approach of the moon, and by which the heavenly bodies are balanced in their perpetual career through space. Again, there is the attraction of *cohesion* by which two smooth and uniform substances, such as polished metals or glass, or cut Indian rubber, adhere together, and lastly you have the *electric* attraction to which as it embraces the *magnetic* and the *chemical*, I shall advert in more detail.

Without entering into minutiæ which to the majority of my hearers would prove utterly unintelligible, a few remarks will sufficiently explain what is meant by the words *electric attraction*. When a piece of glass or wax, or many other substances are rubbed by silk, it is found that the glass acquires the power of attracting or drawing towards it various light bodies in its vicinity. This is simply illustrated by the action of the electrical machine before you, in which friction excites this property to a remarkable degree.*

Now you will observe that in these experiments the attracted substances undergo no change of properties. Their color, form, &c. remain as they were before in every respect. To this then the *specific* name of *common electric attraction* is given to distinguish it from the next which may be called the *polar* or *magnetic*, because under its influence bodies are disposed to place themselves in a determinate position with regard to the cardinal points of the earth, pointing N. S. E. or W. and while so effected have the additional property of attracting iron and a few other substances with great power. With the common *magnet* or compass needle, almost all my auditors are familiar. You know how it points nearly to the North and South, and how powerfully it attracts iron. The cause of this polarity and attraction remained for ages one of nature's most mysterious secrets, but the splendid discoveries recently made by Faraday and Oersted unequivocally prove that the magnetic is but a species of electric attraction. The minute and detailed accounts of these discoveries I must reserve for another occassion. The proof I will shew you now Whenever an electrical current is established in a certain direction in any substance, that substance tends to place itself in the same direction as the magnetic needle or mariner's compass, and it attracts masses of iron in the same manner. An electric current being thus excited in two minute plates of zinc and copper, and made to circulate round a piece of common iron, converts it instantaneously into a magnet of extraordinary power.*

Such are two of the varieties of electric attraction. The third is the *chemical* which differs remarkably from the other species enumerated. It only acts at insensible distances; it changes the secondary properties of the bodies between which it operates, and thus gives rise to the endless and beauteous variety of color, form and fabric, which by means of a few simple substances, only 54 in number, renders the constituents of this globe the inexhaustible sources of happiness and delight to mankind.

The names of these 54 substances I have written on the list before you † They are called *simple* or elementary, because they have not been decomposed or converted into more than one distinct substance. With the names of many of them, even the youngest of my hearers is familiar. There is gold for instance and copper and silver and lead and iron well known to every one, and called *simple*, because we cannot from gold or iron, &c. make any substance of different properties unless some other substance be present. These simple substances are arranged under the heads of airs or gases, of metals and of solid non-metallic bodies. Now combined with each other in various proportions and numbers under the extraordinary power of the last or *chemical* variety of electrical attraction, these 54 substances constitute the whole material form of our globe, and its inhabitants themselves. The air we breathe, the waters we drink, the soil that yields us food, our food itself, in all its varieties, the fabrics of our attire, of our dwellings, our machinery, of the implements of war, of husbandry, of all the pursuits of life, are thus simply and thus the more wonderfully constructed.

* Here Dr. O'Shaughnessy illustrated his remarks by an experiment with paper figures, bells, &c.

* Dr. O'Shaughnessy performed the experiment with the temporary magnet, and De la Rives' apparatus.

† These were written on a board in front of the auditors.

You may contemplate all the objects which surround you in this room, and however great their variety, their ingredients are enumerated on that list. It is their association by *electric attraction* or *affinity* that gives rise to the variety you behold. The science of chemistry is that then which examines the relations this species of attraction or affinity establishes, which ascertains the nature and constitution of the compounds thus produced, and which determines the laws by which its action is guided.

A few readily intelligible experiments will illustrate what I have stated regarding the distinguishing properties of simple substances and the peculiarities of the *chemical electric attraction.* These experiments will further impress on the minds of the student this distinguishing feature of chemical attraction, namely, the changes which it effects in the form, color, smell, and other secondary properties of the bodies between which it operates.*

The domain of the science may thus appear to be what in truth it is of vast and almost infinite extent, nevertheless its study presents facilities whish soon enable us to master its details. Between Chemistry and the study of a language previously unknown to us, a striking analogy may be traced. The words of the language, however numerous, are composed of but a few letters. We learn the forms and sounds of these letters to associate them in words, and these words again we can analyze and divide into their original elementary constituents. Thus it is with the materials of this world, we look around us, are amazed at its grandeur and diversity, and our senses are confused as when we open a volume in an unknown tongue. But experiment and analysis effect for the chemical philosopher what grammars and dictionaries accomplish for the linguist. The difficulties of both pursuits soon vanish, and the original chaos is marshalled into a system of perfect simplicity and order.

Having thus endeavoured to explain and illustrate the *abstract* nature of chemistry, I shall next attempt to point out the practical applications of the science, its importance as a branch of general education, especially for the natives of this country, and above all, its essential, its vital necessity to the medical student.

As a department of the general student's education, the knowledge of the properties of these simple substances and their compounds, is fraught with manifold advantages; of these, one of the most valuable, is its peculiar tendency to the formation of habits of sober and philosophical reasoning. Its very essence being the discovery of the qualities which distinguish one material substance from another, it trains the student by an insensible but irresistible power in the discrimination of truth from error in all its relations whether metaphysical or material. It is, in fact, one of the best systems of practical logic a youth can learn. It teaches him how to observe and appreciate the minutest shades of difference as well as the widest generalization of facts, and it does this, not by an appeal to our mental faculties alone, not by the dry comparisons of the sides of triangles or diameters of spheres, but through the channels of all our perceptions by what we see and hear and feel and taste and smell. On the first occasion of my addressing the classes of the Medical College, I quoted in support of these opinions a passage from an essay by Mr. Parkes, which seems to me to bear so appropriately on the subject that I may perhaps be pardoned for referring to it again; in alluding to the use of chemistry as a syllogistic system alone, Mr Parkes emphatically says. "It may be remarked that it is the necessary consequence of this study that it gives the habit of investigation and lays the foundation of an ardent and enquiring mind. If a youth has been taught to receive nothing as true, but what is the result of *experiment*, he will be in little danger of being led away by the insidious arts of sophistry, or having his mind bewildered by fanaticism or superstition. The knowledge of facts is what he has been taught to esteem, and no reasoning however spacious will ever induce him to receive as true what appears to be incongruous or cannot be recommended by demonstration or analogy."

Such was the opinion of Mr. Parkes, one of the most elaborate and highly informed writers on this subject. But it is not merely on these moral grounds that I would seek to establish the importance of the study to the general native student, other and perhaps more persuasive reasons may be laid before him. By becoming proficient in this science, he learns the certain means of obtaining lucrative employment and considerable distinction. We are in India situated in the vicinity of many territories to which Europeans are denied access, and which a scientific eye has never yet explored. These are open to the ingress of our native fellow subjects, but they know not how to make the observations which chiefly render travels of scientific interest or utility. But if possessed of due knowledge of chemistry and natural philosophy, the native traveller would enter these unstudied regions and view them as he would a book in a familiar tongue. He could ascertain the heights of their mountains, the nature of their soils, the character and value of their mineral

* Here the professor explained by experiment the change of properties caused by the chemical union of various gases.

riches, the composition of their drugs and dye stuffs, and all this with an apparatus not worth one hundred rupees. But not to step beyond the limits of our own possessions, we might point to climates and localities where a European dare not venture, but where a native may reside with impunity, where rich mines of the precious metals, as well as of copper, iron, tin, and lead have been discovered, sources of inexhaustible national and individual wealth, but now utterly profitless through the extreme ignorance of the natives of the mode of working the ores. In illustration of what can be effected in this department, I may mention that in a series of specimens sent to me from a native copper mine in Kemaon, the mere slags (or the part considered as waste by the workmen) were richer in copper than many ores which are turned to great profit in the hands of educated men. Under such a system native mining must be indeed a very useless calling, while if prosecuted by persons trained in chemistry, for a few months it would become a fertile source of national and individual emolument. Analogous cases are so numerous that they would occupy a long lecture to detail them. Possessed of many of the finest dye stuffs in the world, India is forced to export them to a more enlightened land, where the cottons also exported from India receive their colors and return to the place of their original production. I might adduce the instance of the Turkey red and of the permanent shawl green in proof of what India loses by her ignorance of the chemistry of the arts. The Turkey red cottons are well known in the markets of Bengal for their fine and permanent color, and their high price, yet though all the materials used in the process are of Indian growth, the skill to apply them does not exist, and the consumer is consequently forced to pay the expences of their exportation to Europe and their return to India, as well as the remuneration of the European dyer. It is an authenticated fact that the shawl weavers of Cashmere and upper India have on more than one occasion purchased up English green cloth at fifteen Rupees a yard merely for the purpose of extracting the green dye by which it was colored. In the manufacture of porcelain, glass and various kinds of pottery, in the production of saltpetre, the cultivation of opium, the growth and purification of drugs and dye stuffs, for the wholesale market, the same wide field exists, in which numbers of young men would find lucrative employment, and would moreover be the source of inestimable benefit to their countrymen by disseminating among them the knowledge of the improved processes by which the value of the manufactures alluded to would be enhanced beyond calculation.

Such are a few of the useful applications to which the general student may turn this captivating science. It is one, moreover, which the humblest mind can sufficiently comprehend and avail itself, of while to the highest and most gifted it affords unbounded scope for the employment of all its endowments. Duly impressed with the necessity of disseminating such valuable knowledge, our most patriotic and enlightened statesmen and other individuals of high rank in England, have within the last few years lent all their influence to the establishment of Mechanics Institutes throughout the manufacturing towns; in these institutions regular lectures on chemistry are delivered and crowds of humble citizens receive gratuitous instruction. The result is already known—from the ranks of the workman and the mechanic have sprung up a multitude of men of genius, whose endowments would otherwise have been thoroughly lost to mankind. Every art and manufacture has already felt the impetus of this mighty power of education; inventions are daily patented and their practicability proved which but a few years since were merely talked of and laughed at as idle chimerical dreams. In short, the progress of improvements becomes so rapid and extraordinary that it is difficult even to speculate on the limits which human ingenuity will ultimately find.

But even here I cannot close the enumeration of the motives which should influence the *general* student in the prosecution of this study. I am aware that among my native pupils there are many young men whose affluent circumstances will place them beyond the necessity of turning chemistry to purposes of emolument, and who perhaps may reasonably feel no ambition for distinction in this or any other science. But even to this section of native pupils I can hold forth inducements enough in the mental gratification every rational being must derive from the views this study communicates of the beauty, the simplicity, and the design which pervade all the natural phenomena around us. A lecture I once attended at the Royal Institution of London may well illustrate this position. The lecturer treated of the nature and properties of the air,—of the atmosphere we breathe.

He took a portion of the air of the room in which the audience was assembled. He analysed it and shewed that in that invisible impalpable fluid there were two different gases; these gases again he extricated from other substances, and imitating nature's own processes he made atmospheric air. By appropriate experiments he caused mists and clouds to form and miniature lightning to play through the air he thus created. He caused iron to burn like tinder in one of its elements and by the combustion of lime

produced a light as intolerable to the eye, as the rays of a noon-day sun. Water he shewed congealed in a few moments as if by winter, he then separated its elements and made them re-unite with an explosion like the thunder, and such heat that flint and agate melted before it like wax before an ordinary fire, and to crown the demonstration, he lastly exhibited the same elements in another form, impelling a steam engine with the power of an elephant but obedient to the finger of a child. The audience on that occasion were composed of many distinguished noblemen jurists, military officers, divines and other individuals of *general* education, and all seemed equally delighted with what they had witnessed. If then this science discloses such attractions, that it is followed with avidity by these distinguished classes of society, the native general student may with confidence become their imitator in this as in many other pursuits.

But if chemistry be thus profitable and gratifying to the *general* student, the *medical* student derives from it such inestimable benefit that I feel bound to point out in some detail the leading applications of the science to medicine and its tributary or dependent pursuits.

Though the nature of *life* is yet utterly unknown, and perhaps altogether inscrutable, we find that in the living body there are constantly taking place numerous chemical actions essential to life's continuation. Of these one of the most important, is *respiration* or breathing. Chemistry has long since pointed out that the air we breathe is not as the ancients thought, and as the uneducated still believe an elementary or simple substance but composed of oxygen and nidrogen gases, with small quantities of an air called *carbonic acid,* and it has further proved the extraordinary fact that it is the oxygen alone which supports our breathing and thus maintains our lives. The *nidrogen* lends no assistance to the function ; but most strange of all, the *carbonic acid* which exists in the air, we are at this moment respiring, is a poison of such power that if it was present in the proportion of but *one* to *four* parts of air, every individual in this room would instantaneously perish. By various natural and artificial processes this poison is produced abundantly on the surface of the globe. In many places it accumulates rapidly to the imminent danger of those who approach incautiously. A moderate knowledge of chemistry, however, enables not only to ascertain when its proportion becomes too great, but when this has happened to render it perfectly harmless. It leads us too by our knowledge of the cause of the accident to efficient means of treatment and cure. Many of the pupils now present recollect the experiment I showed them in demonstration of these facts, and how a bird apparently killed by carbonic acid, on the application of the proper treatment, instantaneously recovered and flew from the table.

The applications of chemistry to the study of respiration, and the understanding and treatment of many other accidents and of some diseases, in which our breathing is concerned, would in itself occupy more than one lecture, I shall consequently turn to other and equally important applications of the science in medical pursuits. In the *digestion* of our food, it has revealed the elements which most contribute to the nutriment of animals, explained many of the wonderful changes by which our food is converted into blood and flesh and bone identical with our own. It has taught us how to relieve many painful and dangerous diseases of the digestive organs by strictly chemical means, and it has shewn mankind how to extract wholesome, palatable and nutritious food from many substances long supposed to be utterly destitute of utility.

In diseases of the *urinary* organs again, in stone and gravel for instance, a knowledge of chemistry is indispensable. The stones formed are of different kinds, in fact of opposite constitution. Some of them are dissolved or their formation prevented and the patients cured by means of remedies, which would to a certainty have the effect of aggravating the disease were the stone of a different chemical constitution. In short, if we understand chemistry, we can cure many cases of stone, and thereby spare our patients a dangerous and awful operation ; but if we are ignorant of that science, our remedies will in all probability make the disease infinitely worse than before.

Again the blood and its secretions are only understood by the chemist, and he applies his knowledge of their composition to practical uses of the utmost importance, in some diseases, for example, the blood undergoes changes which chemistry alone can explain, and by this explanation we are guided in our research for appropriate systems of cure. Since the æra when medicine was first cultivated, no more remarkable event has occurred, no more extraordinary proof of the power of well directed science over disease has been exhibited than the one to which I am now about to call your attention. As soon as the pestilential cholera reached England, experiments were undertaken by the desire of the Central Board of health, with a view to ascertain whether the blood or other fluids of the body underwent any change in the disease. I had the good fortune to have been em-

ployed for this purpose. Simple experiments, so simple that I have already taught many of this class how to perform them correctly, shewed that the blood was altered in a remarkable degree—that it had lost a great quantity of the water it naturally contains, and the saline matter in which it also abounds. The inference seemed to me obvious, that whatever might be our ignorance of the cause of the disease, this at least was one of its effects which we should obviate before a cure could be accomplished. To effect this I proposed that at least in the desperate cases, abandoned by all other systems, an attempt should be made to restore the fluidity of the blood by injecting the substances it had lost directly into the veins. The suggestion was immediately adopted, and on the 10th of May, 1832, the first trial of the operation was made in Leith, by Dr. Latta of that place, and was attended with results perhaps the most wonderful of any recorded in the history of practical medicine. I quote Dr. Latta's words.

"The first subject of experiment was an aged female, on whom all the usual remedies had been fully tried without producing one good symptom. She had apparently reached the last moments of her earthly existence, and now nothing could injure her, indeed, so entirely was she reduced that I feared (Dr. Latta says) I should be unable to get my apparatus ready ere she expired. Having inserted a tube into the basilic vein cautiously and anxiously I watched the effects. Ounce after ounce was injected, but no visible change was produced, still persevering I thought she began to breathe less laboriously, now the sharpened features and sunken eye and fallen jaw, pale and cold, bearing the manifest impress of death's signet began to glow with returning animation, the pulse which had long ceased returned to the wrist; at first small, weak, by degrees it became more and more distinct, fuller, slower, and firmer, and in the short space of half an hour when six pints had been injected, she expressed in a firm voice that she was free from all uneasiness, actually became jocular, and fancied all she needed was a little sleep.

Such were the immediate effects of the operation. It was immediately repeated on fifteen abandoned cases, cases of individuals apparently beyond all human relief. In every case the same respite was given, and five of these moribund dying patients completely recovered. Dr. Girdwood, of London, next came forward and out of seven cases obtained *five* perfect cures. In one of these blood drawn from the patient one day before and three days after the operation, were given to me for chemical analysis In the first the blood was thirteen per cent. thicker than it naturally should be; in the second after the operation, it had completely regained its natural density.

The instantaneous benefits invariably derived from this operation, and the number of cures obtained almost and miraculously by its use, prove, at all events, the correctness of the principles on which it was founded. It is said to have failed in many cases. This is not surprising for many reasons; the patients on whom it has been performed hitherto have in a vast majority of cases been either dying or actually dead. We could not pretend to work miracles by this or any other method. But independently of this, the thoughtlessness or ignorance of many practitioners in performing the operation with common instead of distilled water, is quite sufficient to account for many of the reputed failures, and for this reason, common water invariably contains atmospheric acid, Now the injection of a minute portion of air into the veins is so rapidly fatal, that this is the mode now adopted for killing horses at the tanneries of Paris.*

I might dwell at great length on this as on many other causes of the reported failure of this operation did my time permit, I now content myself with quoting from the most eminent medical periodical of that day, its Editor's observations on one of thes eextraordinary cases.

"The cases thus alluded to we think are of the most interesting recorded in the annals of our profession. It entitles us to presume that as organic chemistry improves, as our knowledge of the relation between the blood and remedies of different kinds increases the art of treating diseases in general will be placed on a more certain and rational foundation. It teaches us how boldly we may proceed when certain and scientific data are before us, and it thus dispels the all but cowardly timidity which has hitherto prevented the principles of the treatment in question from being carried into effect."

These remarks are from a leading article in the *Lancet* Vol. 1. 1832, where full official reports will be found on all the particulars of this interesting subject.

I feel that I have now trifled so long with your patience that I must pass over very briefly some other departments of medicine, in which chemistry is equally essential and valuable.

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* I may add too that distilled water *as it is commonly prepared* contains a considerable quantity of air also. For this important operation the water should be distilled so that air could not come in contact with it. And heated when required to the due temperature in the bottles receiving instead of using the rude mixture of hot & cold water generally employed.—*Note by the Lecturer.*

Among the foremost of these, especially in this country, is the study of the chemical composition of the medicines used in surgical and medical practice.

Some of the most powerful medicines we possess, such as calomel and the other compounds of mercury, lead, antimony, copper, iron, &c. are exclusively artificial preparations, all easily and cheaply and well made by those who understand chemistry, but only obtainable at enormous expense by persons uninformed in that science. In every bazar in India the raw material is to be found from which all these valuable remedies, from the use of which your countrymen are now debarred, can I repeat, be easily prepared But you must be practical chemists to accomplish this national object, mere book chemistry will not do. In proof of this I need not adduce more than one solitary fact. The substance called *soormah* or sulphuret of antimony, which is cheap and abundant in every bazar, is the source from which all the invaluable preparations of antimony, for instance, *tartar emetic* is prepared, Now, on referring to Dr. Ainslie's work on Indian materia medica, you will find that author asserting that what is sold for *soormah* is always sulphuret of *lead* not of antimony. The practical chemist alone could decide this question, and on analyzing the soormah of the bazar, I found not only real sulphuret of antimony but the best and purest I ever met.

Again there are many valuable medicines, such as Peruvian bark composed of a small quantity of an active remedial principle, mixed up with much useless or even prejudicial matter. From this bark the chemist has extracted quinine, by which we now can master most of the fevers of this country, rendering it to the wealthy and the great, practically on a par in salubrity with many more favored climates. But this Peruvian bark and quinine and other similar valuable remedies are only obtainable from Europe or other countries at an expense which renders them unattainable by the poor inhabitants of this country. But I have too firm a faith in the providence of nature not to believe that she has been as bountiful to India as to Peru. Though our jungles and forests exhale miasma, they are doubtless productive of febrifuge vegetables too. I look with confidence to the indiginous materia medica for a substitute even for the inestimable quinine. The enquiry is already proceeding under the most favorable circumstances, and ere long I trust the discovery will be established which would be fraught with inappreciable good to millions of our poor Indian fellow subjects. This once accomplished, we will in India, if a class of native practical chemists be brought into existence, be almost independent of any other country. I have taken the tronble of counting the nnmber of medicines now imported from Europe. They amount to several hundred, all of which, except 80, may be prepared or grown in this country. For these 80 many efficient substitutes exist in known indiginous productions.

It is almost unnecessary for me to pursue any further the uses of chemistry to the medical student. I will only allude to one topic more. There are numerous and very powerful poisons rapidly proving fatal when taken in a certain quantity. I may mention prussic acid, barytes, oxalic acid, corrossive snblimate, caustic potash, oil of vitriol, &c. as instances ; these and many others chemistry renders perfectly harmless by pointing out antidotes, which if administered in proper time are the certain means of saving life. To chemistry again we turn in cases of murder, by poisoning, to enable us to detect the substance used and, bring the murderer to justice. The nicety with which in many cases this science enables us to accomplish this important, end will be judged of when I tell you that a very little practice in the laboratory will enable you to detect 100th part of a grain of arsenic, corrosive sublimate, &c. in any mixture that can be presented to you. And perhaps it will be equally pleasing to you to know that this science will very often enable you to protect persons labouring under false accusations.

I shall now conclude by giving a summary account of the mode in which the classes shall be conducted.

I propose in the first place to bring the pupils through the list of simple substances before you and their compounds, minutely investigating their properties as we proceed. The history of chemistry, one of the most pleasing departments of my duties, I will take up seriatim as I examine each simple substance. Thus, when we come to the metals, their history will bring us back to the days of Geber and the alchemists, to their dreams on transmutation and on the philosopher's stone. When the *air* is to be described the labors of Priestly, Cavendish, and Lavoisier will find their most appropriate, because most intelligible, record. Having gone through the simple substances, I shall shew how they are affected by heat and light, and in this department the steam engine, and subsequently the recent magnificent discoveries in electricity and magnetism will be fully considered. In this system I may add, I imitate with slight modifications the plan pursued in the Schools of Chemistry of the Universities of Edinburgh and London. I say with slight modifications, for I am aware that it is usual in most schools to

commence with heat and light, and thence to proceed at once to electricity and magnetism, and last of all, to the simple substances. The plan seems to me open to so many objections, that I have decided on adopting the different course I have described. From the difficulties I myself encountered while a student in comprehending the laws of heat before I was taught the properties of the substances on which the operation of these laws was pointed out, I cannot but be convinced of the advantages of the method I now propose. How, for instance, can the *specific* heat of the *gases*, an important and most useful but most elaborate subject, be possibly studied with advantage by those who are ignorant of the other physical and chemical properties of the gases in question. On this point I appeal with confidence to more than one of the eminent scientific gentlemen now present. Again, as to heat, the recent researches of Nobili and Melloni on radiant heat would alike defy the intelligence of any student who did not possess extensive and accurate knowledge of the chemistry of the simple substances; in proof of this I may mention that the new and beautiful results they have obtained, can only be demonstrated by an instrument called the thermo-multiplier, they have constructed, and which is now preparing in this laboratory, so delicate in its indications that the heat of a common fly or of a budding flower, even of the moon's rays, is distinctly shewn by it. It would be idle, I repeat, to attempt to teach my pupils the use of this instrument at the commencement of the course, and it would be equally idle to attempt to teach the laws of heat without its assistance. These remarks *ceteris paribus* apply to galvanism and electricity, also sciences which Faraday has completely within the last few months revolutionized. It would be equivalent to the teaching of the Ptolemeian instead of the Copernican astronomy, if I were to follow in this school any doctrines but those which Faraday has established, and which will mark this century with distinction in all future scientific chronicles. But I might as well give lectures on astronomy to men destitute of all knowledge of the rudiments of mathematics as persevere in the usual routine of the schools, as to the order of the lectures on galvanism and electricity.

Lastly, on the alternate days whenever the subject admits of it, the medical pupils will be instructed in the laboratory in the practical details of chemistry, especially in the making of medical preparations and testing of poisons and analysis of ores and minerals. In this section I shall follow the system adopted in the *Ecole Pratique* of Paris, the beneficial workings of which I have myself witnessed. These courses will occupy about five months, and next year will, I trust, be followed by one for general students and tradesmen exclusively on the chemistry, of the arts, and in which they will have the benefit of visiting the many manufactories about Calcutta; and by another for the most distinguished of the medical pupils on the minute details of analysis on the peculiar plan followed by *Rose*, the professor of chemistry at Berlin.

The only serious difficulty I anticipate in carrying these designs in execution is in the impossibility of providing all the pupils with the admirable class books of Europe. The only remedy I can devise for this difficiency, is the publication next year of the notes of my lectures in the form of a Manual. This will be of use to the elementary students, while those who distinguish themselves shall not want books to promote their exertions. Of course the success of the plan depends chiefly on the zeal and capacity of the pupils. Of their capacity no one who looks at their foreheads can doubt for a moment, of their zeal, too, I have had already ample proof, and why should they not be zealous. They have every thing before them to make them enthusiastic. Emolument, honor, and distinction must rouse them from the apathy alleged to be their national curse. In fine, I would bid them to look forward with the feelings of patriotic men to the benefits they can thus spread among their fellow subjects. Every pupil we teach here may go forth in his turn and teach a hundred more, thus scattering in every direction the seeds of useful knowledge we now are implanting among themselves. They will thus become the best reformers of their æra, and though some among them may not live to see the gathering in of the harvest they have sown, their memory will at least be honored as the first who guided the plough over a field which for ages had been a *fruitless* because an uncultivated, waste.

I feel it necessary to correct a misapprehension relative to the publicity of these lectures. They cannot be called strictly *public*. In the first place I am not aware how far that might be sanctioned by the Principal of the College or the Committee of native Instruction. The lectures, moreover, will scarcely be of the description calculated for a general audience, being solely intended for the elementary instruction of the Hindu College and Medical pupils. Next *cold* season I hope to give a course of *popular* lectures in Calcutta. Meanwhile any gentlemen who may feel interested in our progress, and satisfied with mere rudimental instruction is of course perfectly welcome to attend.

HUNTER ON THE

TOPOGRAPHY OF POONAH,

EMBRACING A

HISTORICAL REPORT OF THE DISEASES

IN

H. M.'s 2D OR QUEEN'S ROYAL REGT. FOR THE YEAR 1835.

The communications we have received at different periods from Mr. Hunter are justly valued, but the one we now present to our reader's attention is of infinite importance: enlarged in its views, comprehensive in its details, and correct in its conclusions, we submit it as worthy of imitation by our talented brethren in H. M. Regts. Our desire being to convey to after ages valuable information on the Topography and diseases of India, we need not say how grateful we shall be for similar communications to the one which enriches the columns of our present number.

Station—Poonah—Lat. 18° 30′ N. Long. 73° 30′ E. Height of Poonah above the level of the sea, 1800 feet. Average height of intervening ghauts, about 2,300 General direction of ghauts; N. N. W. and S. S. E. branching Eastward. Winds N. E. and S. W. Monsoons, the latter from the end of May to the beginning of October. Rainy season from the middle of June to the middle of October. Average annual fall; 22 inches. Thermometer's lowest range at 7 A. M. in Nov. Dec. Jan and Feb. 50° to 68°; highest during the day 67° to 85°; lowest at 7 A. M. in March, April and May 68° to 80°; highest during the day 86° to 101° in June, July, August and September 70° to 82°; and 74° to 84° and in October 67° to 78°; and 78° to 87°. Markets—Good and abundant. Water—Good supply from wells for ordinary purposes; and for culinary &c. from an aqueduct, built of stone and lime, from the neighbouring heights.

The climate is generally cool and agreeable, except during March, April, and May, commonly called the hot months, from the hot winds, which during that period blow strongly from N. E. to N. N. W., accompanied with whirlwinds and clouds of dust. The rains commence and terminate with thunder storms, and during the intervals of these, the heat is often very oppressive The rainy season, however, when fairly set in, is the pleasantest period of the year. The weather is generally cool and cloudy, and no great quantity of rain falls. In October when the monsoon changes to N. E., the cold weather begins rather suddenly, and at that time the mornings particularly are cold and raw, accompanied often with a damp fog, which continues till 8 or 9 A M., December, January, and February are dry; and in the mornings frequently very cold, the thermometer often falling to 45° at 5 A. M. or even lower.

October and November are the most unhealthy months; and next to these perhaps, May and June; but upon the whole, the climate of Poonah is one of the very best for Europeans in Western India.

The infantry cantonments are situated about a mile east (southerly) of the city, and thirty of the western ghauts, upon some elevated ridges of primitive rock, covered by a very shallow, tenacious earthy soil; its tenacity chiefly depending upon the presence of lime, an impure carbonate of which is found in some of the neighbouring hollows, in beds a few feet from the surface. The surrounding country on the western aspect, consists of numerous irregular rocky ridges, elevations and hills, gradually becoming higher as they approach the ghauts; whilst on the eastern it expands into a vast, partially cultivated plain, interspersed with abrupt rocky hills. The whole is very dry and clear of swamps The river issuing from the ghauts winds nearly half round, but nowhere approaches within a mile of the cantonment. Its bed is rocky and gravelly, and in many places, dry during the hot season.

The hollow or valley, extending in a south-easterly direction from the city, and about half a mile in rear of the camp, is well cultivated, consisting chiefly of gardens and mangoe topes, over which the S W. monsoon partially blows. Its soil is a deep, rich, vegetable mould; and near the city, particularly, is in a great measure forced.

The cantonment allotted to the 2nd, or Queen's Royal, is the most western, and runs nearly N. and S. on the summit and western declivity of a small ridge facing the east. The barracks are built of brick and mud, in three rows of single storied rooms roofed with the common country chupper, and are without shelter, except from a few small trees in front of the first line. The rooms are spacious, and the floors are raised and covered with mud.

The Hospital is on the western declivity, to the right of the officers' lines, and is a very substantial brick and lime building, roofed with tiles. It forms three sides of a square opening to the north, and consists of two long wing wards, and two small centre ones; having a passage between, leading to the Surgery, &c. To the rear of the Surgery thirty paces, are the cook rooms

and fifteen to the rear of these, the Stores, &c., which are joined to, or inclosed with, the Hospital, by a wall eight or ten feet high. Directly in rear of this wall, communicating with the Hospital by a small door, is the dead room, and to the right and left at some distance, the Female Hospital (a small building,) and the quarters of the Apothecary, Steward, &c.

In front the Hospital square is inclosed by a low wall and railing, having a large wooden gate in the centre. Outside of this a few paces from the extremity of one wing, is the guard room; and of the other the quarters for the Hospital Sergeant. The whole of the buildings connected with the establishment (the native huts excepted, which are to the rear of all) are enclosed by a prickly pear fence, the nearest part of which is at least thirty paces from the Hospital. The inclosure or compound as it is called, is dry and clean, the sloping nature of the ground, and shallowness of the soil, in addition to the drains and gutters cut for the purpose, preventing stagnation of every kind.

The wards are spacious, high and well ventilated, and their floors are raised some feet, and paved with flags of hewn granite. In front they have excellent verandahs all round These from the wings are continued in the form of covered passages, past the end walls of the centre rooms, twenty paces to the rear, where being open in front, they afford ready entrance from the cook-rooms, &c. without passing through the Hospital. Off these verandahs a door opens in the left wing to the bath room, made in the rear centre Verandah; and in the right, to a similar room used for an office. The water closets, &c. are built at the extremities of these covered passages.

The wing wards are without rear verandahs, but the western is in some measure protected from the S. W. monsoons by a kind of projecting roof or false verandah, supported by wooden pillars. All the windows are of glass. The Hospital will accommodate about 120 patients.

Average strength of the Regiment during the year—691. Average age 30. Average service in India—9½ years. Number treated 967. Average number in Hospital 57; died 12; invalided 18.

Of the diseases during the year, we may say the most prevalent have been, intermitting and remitting fevers; sub-acute and chronic rheumatism; catarrh and bronchitis gastro enteritis; and dysentery; and latterly, measles.

During the first quarter, or dry months, catarrh and rheumatism took the lead. Immediately after, in the beginning of April, the weather became unsteady, accompanied with thunder, lightning, and heavy rain, which continued till about the 20th, and in consequence, we experienced little of the hot winds usual at that season. The rains returned in a similar manner early in May, and by the end of that month, had set fairly in, which was at least three weeks earlier than usual.

Immediately after the first rain, in the beginning of April, mild intermitting and remitting fevers, generally complicated with gastric symptoms, and gastro-enteritis began to prevail, and continued more or less till the beginning of July, when the latter gradually verged into dysentery, and the former disappeared.

From the middle of July till about the 12th of August, the rains totally ceased, which created some fears for the crops; but after that they again fell abundantly, till about the 15th of October, when they terminated in the usual manner. Upon the whole, during the season, there was more than an ordinnary fall. I believe about 30 inches.

During the dry weather above alluded to, the Regiment was remarkably healthy, but soon after the rains recommenced in the middle of August, Dysentery re-appeared in a worse form; and of the admissions under it of that month, two cases proved ultimately fatal. Dysentery was much milder the following month, and by the end of it, had nearly disappeared.

In the end of August, we had also a few mild fever cases, but none of any moment till the end of September, when the weather becoming variable they began to be complicated with catarrhal symptoms, gradually becoming more severe till the dry cold weather set in, in the end of October. From that to near the end of November, they were more of a congestive type, generally accompanied towards their termination, with yellowness of the skin and eyes. After that again catarrhal, accompanied with greater excitement; and latterly, with acute head-ache.

In October, catarrh and bronchitis also prevailed; and in November and December, measles.

Rheumatism had also set in within the last fortnight, and there are now seven or eight cases in Hospital.

Fever.—In all 288 have been admitted under this head, and nearly an equal number in each quarter, as would appear by the return; but a return even with the greatest care, I conceive to be a very imperfect criterion, inasmuch as it can neither shew the force nor accurately the type of the fever. A great number always are of the ephemeral species, from excess, exposure to the sun, &c. yet as no such appears in a return, it is evident they must go to the credit of intermitting, remitting, or continued. Most frequently perhaps the latter, yet it is questionable

whether such really exists here, in a pure form amongst Europeans.

Fevers always partake more or less of the "reigning constitution," and as that of Poonah is the remittent, I think with few exceptions, they might all be referred to that head.

In offering a few remarks, therefore, on the fevers of the past year, we shall adopt this view, and instead of dividing them into species as intermitting, remitting and continued, we shall divide the year itself into three febrile constitutions after the manner of Sydenham, and contemplate the fevers accordingly. The first we shall call the gastro-enteric, and in this include April, May, and June, that is, from the first rains till the earth was saturated. The second, which we shall call the catarrhal may be made to include the end of September, beginning of October, end of November, and all December, leaving the end of October and beginning of November for the third, the shortest, but much the worst, the gastro hepatic. In this last period two died, the only deaths by fever during the year.

The first of these was characterized by diarrhea, and tympanitic resonnance of the abdomen, sometimes with tenderness or vomiting. The second by cough or pain, or stuffing in the head or chest; and the third by the low congestive symptoms, vomitting, yellowness of the skin and eyes, and on post mortem examination, the congested, dark coloured, and softened state of the liver and spleen.

The first and last of these periods as might have been anticipated, were the grand remittent constitutions; and the greater force of the last, may in some measure be ascribed to the aid of the cold mornings. Intermitting fever was nearly confined to the first. During the second, or catarrhal, measles made their appearance and have prevailed pretty extensively ever since, though only in the Queen's since the 15th ultimo.

Treatment. With reference to this we may in general terms say, V. S. to the amount of 8 or 10 oz. was had recourse to, in the commencement of almost every case of moment, but only with a view to lighten as it were, the weight of the circulation. Neighter the appearance of the blood, nor the tolerance of the system warranted more. The former was loose, seldom separated from edges of the vessel and of a bright red color, which it readily imparted to the small quantity of serum floating above. Of the tolerance of the system, we judge by the quantity of blood that may be abstracted in the erect posture, without inducing syncope, the method now practised in Europe; and taking this of the men in general, in health, at 12 or 14 oz. in the fever above alluded to, they could seldom bear more than 8 or 10, thus indicating that the tolerance was one-third less than in health. In one case, in December, accompanied with acute head-ache, V. S however was repeated, and apparently with much benefit; but it is to be remarked that both in that, and others, during the catarrhal constitution, a thin film, (like mucus), was interwoven with the other characters; and it was this circumstance chiefly that suggested the repetition.

After V. S. we had next recourse to purgatives or laxatives. In the gastro-enteric 10 grs. of blue pill, and 10 of rhubarb, followed by 4 drs. or so of the sulph. magnesia, we found the best. In the gastro hepatic, cal. and jalap, followed by a couple of drs. of salts every two hours; and in the catarrhal, cal: ant: and jalap followed by free doses of the tartarized solution (salts and tart: ant.)

After a full action had been induced, we commenced with abteratives. In the gastro enteric 4 grs. of blue pill, and 4 of rhubarb, or the hyd. C. creta and rhubarb in proportionate doses, three or four times a day; and from 2 to 6 drs. sulph: magnesea, every morning. Also, if severe, ½ to 1 dr. of ung. hyd. night and morning, by friction unto the axillae, till the mouth became sore, or the fever ceased; saline diaphoretics, and according to circumstances leeches and fomentations to the epigast or abdomen. A similar method was pursued in the gastro hepatic. In the catarrhal cal. ant. and op. occasional purgatives; saline diaphoretics, and leeches to the head or chest.

Quinine we found most useful in the gastro enteric, and that even without a very perfect remission. In the gastro hepatic, its good effects were less marked, and in the catarrhal, I suspect without a very perfect remission, it was positively injurious. Mercury was pushed to ptyalism in several of the gastro hepatic. In some, the fever returned, as the ptyalism wore off and in all the convalescence was tedious. Quinine was found beneficial at these periods, but in many the yellowness and bloated appearance of the countenance, continued for a long time. Mercury was much more beneficial in the gastro enteri.

In illustration, we shall now select a couple of cases of each.

(*To be continued.*)

OBSERVATIONS ON INTELLECTUAL AND CORPOREAL ACTION.

SECTION II.

In the preceding section of this paper, we have dwelt with exquisite pleasure upon

a series of observations chiefly relating to the passions of the mind and the excitability of the body: we now come to speak on the imagination, and its intimacy with the sanguine and nervous system. Our subject is an interesting one, much ingenuity will be wanted to manage, and more labor to illustrate it. We are of opinion that soundness of intellect, or even genius, depends upon a healthy regularity of the circulation, and a proper consistence and stimulus in the blood;* united with a like degree of excitability to be acted upon in the nervous system. In the writings both of Physicians and meta-Physicians, we have met with passages, which contain tenets pretty similar to our own, but have never been fortunate enough to meet with a copious and argumentative paper, upon this subject; we shall therefore write one, as systematically as possible, and hope to make it worthy of men of science: they will forgive us when we err, knowing the difficulties our theme involves. A writer of some repute, without reference to either materiality or spirituality; for then he would be quite lost in the ether of metaphysics, says, speaking of the effect of stimuli and exercise upon the vital principle: "the first effect they produce is a preternatural acuteness of all the senses; the motions, both voluntary and involuntary, are performed with vigour, and there is an acuteness of genius and intellectual power."† This is the real effect of moderate stimulus upon the human body; and to satisfy the sceptical we shall substantiate the assertion by precept and example.

Now in Medical Science it is an established fact that all stimulants quicken the circulation. Under the influence of wine, we know that the imagination becomes powerful and creative; an example of this fact is the Right Honorable R. B. Sheridan, who never spoke better than he did under the use of liquor. Another, the Earl of Carnarvon, who made a witty and concise speech, (the first he made) under the use of wine. But if the same brain fuddling juice be taken in an over dose or in pure libations, as Lord Byron would say, we find that it clogs the brilliant faculty, and confuses ideas. The blood is the natural stimulus of the body; and exercise is the method nature intended we should use to avail ourselves of its stimulant powers. Exercise has the same effect upon the animal energy as any other stimulant, though with much more advantage, it being natural. The faculty will not contradict us if we infer that it has the same effect upon the imagination as other stimuli. It has the same disadvantage which attends others when excessive: that is, langour, feebleness of ideas. Bishop Andrews says in his Exale-tation of Ale,* that the most exquisite period of *drunkenness* is when one is not quite drunk, nor quite sober, "but neighbour to both," or as the Beglers say, "mellow." I would wish to impress upon the reader that it is a medium in the circulation which enables the intellect to become acute, when other circumstances favour.† For when it is too languid, in unbraced vessels the mind is feeble, and when too high it creates a fault in the intellect, of ideas passing too soon in succession, and inducing the *subject* to fly from the point in dispute very quickly; a fault common with young reasoners and some old ones as well. In such cases tea may be employed as a sedative. A contrary state of the constitution will appear more curious, for torpidity creates an almost total want of imaginative powers and invention. I believe every thinking man has observed that when his mind is set into a train of thought, the circulation adopts itself peculiarly to the interest, with which the theme agitates his mind for instance, when we set down a long while and think, almost every power in the system is unnerved yet the circulation is not lowered; and on retiring to bed we find we cannot sleep, only for a state of the circulation which does not correspond with the reign of Somnus. Mr. Samuel Cooper, an eminent surgeon, in an article on the effects of cold‡ mentions two instances which we are glad agrees with our persuasion and goes to prove that during a state of suspended or lowered circulation it is impossible to think. The one is the case of a woman, named Elizabeth Woodcock who lay buried six feet under the snow, without food, quite eight days; the other of a French peasant named Boutillat who slept four days under snow. In commenting upon these disasters, he says "for it is expressly related that she was sensible the whole time, a state which cannot be supposed to be compatible with a general congelation of the blood. *How could sense and intellect return, if the whole mass of the blood had been frozen.* The very existence of sensation and intellect proves, that in none of these cases, a completely frozen state of the body, or of the blood,

* See Encyclopedia Britannica, article genius.

† Garnett's Zoonomia, p. 231.

* MacNish Anatomy of drunkenness.

† The artificial remedy which is resorted to in order to make up for that diffidence which some experience in public speaking, however, too often tends to the perversion of intellect as well as principles. It unquestionably tended to the prostration of those physical energies, which terminated the existence of Fox and Pitt; the eloquence of public speakers in ancient Greece and Rome had nothing of this exciting influence generally speaking.—EDIT.

‡ Cooper's Surgery, p. 116, vol. I.

could have taken place." Charles the XII. a Prince burning with military ardour, is known to have slept upon the snow, while his soldiers perished in numbers within the same region and temperature. We are for supposing that death could not touch him while circulation was acted upon by powerful sentiments. Plein de l'idée d'Alexandre et de César, ie se propose d'imiter tout de ces deux conquérans, hors leurs vices.* It is neither an exceedingly high nor exceedingly low state of the circulation which seems so compatible with the acuteness of genius: but a healthy vigour in the life of the flesh. It is entertaining to observe the work of nature: how she has adapted our minds to our bodies, and established a harmony between them. Thus when our thoughts are braced to their proper tones, our muscles are so too.

We shall content ourselves with these observations, and depart to the remainder of our task, after drawing an inference, which will be interesting.

In the severe cases of Cholera, when there is suspicion that the subject suffers from obstructed circulation, we may depend upon this not being the case, if he betrays clearness of intellect, which usually attends the disease. But incoherent ideas and indifference are in our opinion sure symptoms of obstruction and congestion.†

To speak of the blood in its connection with the imagination is a subject still more delicate, and we shall offer an hypothesis, which like every other hypotheses may be subverted by opponents. It is remarkable that things which were committed to memory during childhood have a stronger hold of the mind than any others. It is as true that when we come to the years of puberty we instinctively cast off childish notions. I suppose by the stimulus of the blood upon the nervous excitability. The nerves of the system have no small power over the imagination, this the reader will not doubt, if he ever suffered from blue devils and mimosis inquieta; obstructed biliary secretions affecting the nerves of the intestinal canal; is the cause of that dreadful despondency of mind, and the terrors of imagination which attend such diseases. If the nerves in the remotest parts of the system, when irritated, create such mental perturbations, we presume that the nerves of the cerebrium are the very abodes of imagination by sympathy only. Let us suppose that ideas lay along the sensorial nerves, and when these are operated upon by stimuli, whether sanguine or of wine or opium these ideas come to mind as the nerve proceeds to exhaustion. Thus one degree of stimulus exhausts one degree of nervous intelligence; we might exemplify this by a scale of numbers, but having a high opinion of all reading men in this age, we hope they will be able to conceive our theory.

Sulkea, Feb. 19, 1836. J. G.

(To be continued)

* Hist. de Charles XII. Volataire.

† The very reverse is the case. The intellect, is always clear in cholera to the last moment.—Edit.

ON MURIATE OF SODA IN ALLAYING URGENT THIRST IN CHOLERA.

To the Editor of the India Journal of Medical Science.

Sir,—In the discussion upon Mr. Chapman's paper on the treatment of cholera with tartarized antimony, as reported in your Journal to have taken place at the meeting of the Medical and Physical Society on the 5th of November, 1835, I observed with pleasure the circumstance of that gentleman having administered common salt in solution with temporary advantage in one case, which terminated fatally, and in several other cases "apparently with considerable advantage." Mr. Corbyn, also, towards the conclusion of the discussion, mentions having witnessed much good from its use. He allowed his patients to drink freely of *congee* water, well saturated with it, or, as he says in his book, abounding "with it," observed, that it *tended to act upon the bowels and did not find that it aggravated thirst,* an effect to be apprehended from its use." In the one case the salt seems to have been given as an emetic; in the other perhaps as an assuager of thirst. I am not going to trouble you with any palpable obscure "disquisition upon the probable action of the remedy, but merely to state a fact, (a solitary one I admit) which occurred in my own practice; and this I am the more anxious to do, as in the report of the discussion alluded to (except as an emetic) neither of the above gentlemen, as far as I have seen, states clearly and distinctly what the advantages of the salt were; at least they do not seem to be such as those witnessed by me in the following case.

In May, 1835, Sudden Singh, a sepoy of the Resident's escort, a large and athletic man, was attacked with spasmodic cholera, which commenced in the night time or rather towards morning, with vomiting and purging; when I was called to see him he had been between two and three hours ill, and was then labouring under the ordinary symptoms of the disease in a violent degree. I need not describe the case mi-

nutely, it is sufficient for me to say, that spasms of the legs and arms, griping in the bowels, small quick pulse, excessive thirst and heat at the pit of the stomach, restlessness, collapsed features, suppressed urine, prostration of strength and coldness of the extremities were the symptoms which I found him labouring under. I gave him a scruple of calomel, and 60 drops of tincture of opium, put hot bricks and bottles to his extremities and had him shampooed. His calls for cold water were urgent and incessant. He vomited every thing as soon as swallowed. I had lately been reading some English works on the subject, in which I found that English medical men, like their brethren of the East, had tried every thing and with various success. Common salt, sedatives, and stimulants ; boiling water, and ice, had each in turn been tried. Independently, however, of the praises in favor of common salt, as an emetic, I saw a solution of it recommended for the dreadful thirst, and burning at the prœcordiá. I determined to try it, and made a mixture of 4 large tablespoonsful of salt to a wine bottle of cold water, of which I gave a table-spoonful every three or four minutes. The first two doses were rejected, but before half a dozen doses were taken, the patient was evidently relieved. I then repeated the calomel and opium which was retained, and continued the salt and water, *at the man's urgent request.* At length the gastric symptoms subsided, and it was not until he had taken nearly the whole of the salt and water that he discovered its saline taste. He took another scruple dose of calomel (without opium) and a couple of hours afterwards a good strong dose of compound jalap powder. He slept and rapidly recovered.

My object in addressing you is not merely to report the recovery of a case of cholera, but to bring to your notice the effect of the salt and water in relieving the burning thirst, quieting the stomach, *and enabling it to retain other remedies*, which was surprising not only to myself and to Captain Hannay, who commands the escort, but also to the attendants who witnessed it. Its modus operandi I must leave to be settled by others. I do not think it acted on the bowels. I am sure it did not create thirst either at the time or afterwards. I merely state the circumstance as it occurred, and even should the remedy not always succeed (as what remedy invariably does?) the fact for its own sake cannot but be interesting and may be useful.

Your obedient servant,

T. G. Bayfield.

Ava, 14th February, 1836.

GENERAL HOSPITAL, CALCUTTA.

CASES OF HYDROCELE, SUCCESSFULLY TREATED BY INJECTION WITH *IODINE*

John McEvoy, æt. 40 : a man of sanguineous and nervous temperament, with light hair, blue eyes, and very fair complexion, admitted with fever, disordered bowels, and chronic hepatitis. He remained under treatment for these complaints till the 8th of December, when he was pretty well. He showed me that day a hydrocele of the right side. The testicle could be felt distinctly somewhat larger than the opposite, and flattened, the epididemis swollen. The fluid began to collect about 12 months ago, and was the consequence of an inflammation of the testicle caused by his accidentally hitting himself with his own hand while playing at racketts. He had been leeched repeatedly and confined to bed for some weeks but the testicle always continued a little painful. He now suffers no inconvenience except from the size of the tumor and is anxious to be relieved —2lb. of a limpid fluid were drawn of by the trocar, and the emptied sac immediately injected with tinct. iodine ʒs. Aqua distil. ʒiij. when the trocar was withdrawn.

Contrary to my expectation he did not complain of much pain at the time. The following day, there was active inflammation, the scrotum as large as before the operation, pain described as that of ant's stinging along the under surface of the scrotum, and along the spermatic chord, no constitutional fever ; bowels regular.

A cold saturrine lotion was directed and a dose of salts.

On the 17th the swelling had been reduced to half its former size. The pain was trifling ; testicle feels swollen.

On the 22d both testicles were of the same size, the skin of scrotum flaccid and natural. The scrotum when shrunk up by cold, is of a small size. Discharged.

He came back at the end of a week to show himself. He had thrown aside his suspensary bandage, and was quite well as ever he was.

7th Dec, 1835.—Richard Fouler, æt. 44 : an old sailor, who had broken his leg twice, and had sloughing ulcers over the ancles, connected with the diseased bone. For these, which were very unmanageable, he continued long under treatment.

On the 17th he sought relief for a hydrocele of the left side, of considerable size, the growth of the last two years. He had been tapped at Bombay for it on board ship, and

port wine was injected, which produced some pain but no swelling, and he returned to his work three days after. There is a band across the upper part of the tumor, and a defined swelling along the course of the chord, having all the appearance of an inguinal hernia. He declares that it is a rupture, and that he distinctly feels wind in it, and can return it into the abdomen. However, as fluctuation is perceptible in the whole tumor, and pressure on the lower part evidently displaces a fluid above, as no difference is perceptible in the size or feel of the tumor when he coughs or lies down; this is very improbable. It was resolved, therefore, to tap the hydrocele and be guided by circumstances in completing the operation. Twelve ounces of a clear fluid were drawn off by the trocar, the swelling of the upper part of the tumor disappeared at the same time, and there was no further hesitation about the propriety of the injection.

It produced very little pain at the time, but active inflammation next day, with thickening of the tunics of the spermatic chord and pain in the loins. The constitutional symptoms were very slight and required no treatment. On the 29th, both testicles were of the same size; the scrotum flaccid, and natural.

Remarks.—These two cases are interesting in proof of the safety and impunity of the operation for the radical cure of hydrocele by the injection of iodine in the European subject. One of them is particularly valuable, as recording the success of the new method after failure by the old port wine injection.

Mr. Hunter used to remark, speaking of the different operations for hydrocele, that each had been practised and strongly recommended, because each had proved both successful, and unsuccessful; "but the want of success in any mode had only been alluded to by those who had another to recommend of their own, leaving its failures to be discovered by others."

Now, had Mr. Hunter lived to hear the history of this operation, I think he would have spared this remark, and given his ready and unqualified preference to a mode of operating, which out of 400 cases, does not exhibit a single failure. It is well known that in the hands of Mr. Martin, of the Native Hospital, to whom the profession is indebted for the discovery, not a single failure has occurred among the natives in that number; and some of the cases were very extraordinary. A man was exhibited to the Medical Society some weeks ago, with scrotum reduced to the size of a child's head, the twentieth day after being operated on for hydrocele, which contained nearly a gallon of fluid, and which when emptied hung between his knees like a Bheesteé's bag.* It is worthy of remark that the iodine seems, when used in this operation, never to produce any of the bad effects occasionally attributable to its employment, and that having excited a specific action sufficient to remove diseased parts, and model the sound into their normal form and habits, it has never exceeded that point.

In the latest number of the *Lancet*, I find Mr. Stanley lecturing clinically to his pupils at Bartholomew's upon the dangers of infiltration, the cautions to be observed in introducing the trocar and in withdrawing and using the canula, the risk of leaving any part of the stimulating fluid in the sac &c. &c. &c. Sir Astley Cooper, too, continues to describe and discant on all the old methods of operating, and in none of the English Journals have I found even an allusion to this method, destined beyond all doubt in due time to supercede every other entirely.

Our brethren at home have not yet taken the trouble to hear of it, and continue to exclaim, "Can any good thing come out of Nazareth."

D. S.

REVIEW.

TRANSACTIONS MEDICAL AND PHYSICAL SOCIETY, CALCUTTA, PART II. VOL. VII. 1835. THACKER AND CO.

OBSERVATIONS ON LAND SCURVY, BY JAMES HUTCHINSON, ESQUIRE, PRESENTED APRIL 17.

Mr. Hutchinson, was induced to offer this paper to the notice of the Society in consequence of having read an article on Land Scurvy in the 4th. volume of the Transactions by Dr. Burt. That physician's attention was first directed to the complaint in the beginning of 1822, in consequence of the severe ptyalism which followed the exhibition of a small dose of calomel to a patient complaining of slight fever; he found, however, on further enquiry that the patient's gums had been ulcerated for several weeks before. A few cases of fever had come under Dr. Burt's observation prior to this, in which ten to fifteen grains of calomel, combined with other cathartics had produced ptyalism; and, on refer-

* It will be necessary to state for the information of our readers in Europe that this is a bag of sheep's skin in which the native water carriers carry water.—EDIT.

ring back to these patients, that physician found that the gums had also been previously ulcerated. These cases induced Dr. Burt to be particularly careful in the study of Diagnosis. The consequence was, that he observed Scurvy to prevail during the rains and cold weather, and generally to disappear again in the hot. Now we consider these facts of very great importance in clinical practice. The practitioner is often reproached for using mercury, because ptyalism supervenes suddenly and unaccountably, and that medicine is denounced as pernicious and destructive. The practioner himself is often brought to join in the unreasonable outcry, and by mistaking the real cause of the mischief, erases from his list of therapeutics, this inestimable remedy.

We readily admit that there may be some cases in which the scorbutic diathesis is not to be distinguished: but these are rare, and generally speaking, precise and satisfactory results follow careful medical observation.

Pathological or Physiological facts are attainable only when prejudice and false reasoning cease to exist, and instead of excluding any particular article from the list of the drugs we intend to prescribe; let the subject of our present review teach us to pay rigid attention to diagnosis. Then instead of denouncing this or that medicine, or falsely and tenaciously adhering to one, and only one course of practice as infallible and specific, we shall study the peculiarities of individual constitutions, the nature and functions of particular organs, and, hereby soon learn how to acquire the important knowledge of the manifold and insidious changes which are induced by disease. We have offered these preliminary remarks, in order to explain our reason for adverting to Mr. Burt's writings, and giving his account of land Scurvy in illustration of the case now before us by Mr. Hutchinson. Dr. Burt has the following observations on the subject.

"The land scurvy is very insidious in its progress, and I am inclined to think that it may have occurred in hospital prior to this, and been reported as fever or dysentery, these being the first symptoms of which the patient complains, although his gums may have been in an ulcerated state for months before.

There are two stages distinctly marked in this disease. The first commences with great depression of spirits, disinclination to take the least exercise; even to speak appears to be a burden to the patient. He gives up associating with his companions, or entering into any of their amusements, and prefers to sit moping all day long in the corner of his apartment, or sleeps a great deal. The strength and appetite are gradually impaired, pulse weak and slow, bowels regular, and evacuations of the natural appearance. As the disease advances, the countenance assumes a peculiar leucophlegmatic appearance, and very often the eyelids are œdematous in the mornings. Should the mouth be examined, the gums are found ulcerated and spongy, but not painful; the teeth in many instances loose. During this stage, which often continues for months, no complaint is in general made. In many cases, I have detected the disease only from the retired habits and peculiar leucophlegmatic look of the patient.

In the second stage, the patient first complains of slight fever during the night, accompained with rheumatic pains of the joints; and if he has been formerly subject to intermittent fever, it comes on in that form, and in the course of some days becomes continued. Skin is rough and dry, pulse small and quick, tongue white, bowels rather loose, with dark colored evacuations; sometimes, though not often, blotches appear on different parts of the body. As the debility increases, œdema of the feet and hands comes on, followed sometimes by hydrothorax, but more frequently by diarrhœa or dysentery, which soon puts an end to the patient's sufferings.

I was much puzzled at first to account for the appearance of this disease in an hospital where every thing in the shape of diet is fresh, and principally vegetables; and began to suspect that the provisions were either bad, or that the patients had been stinted of their just allowance, which consists of the following articles per day to each.

Rice.	Dhal, or split pease.	Dhaee, curdled milk.	Oil.	Salt.	Pepper.	Tobacco
½ lbs. morning & evening.	6 ounces morning & evening.	6 ounce daily.	½ ounce daily.	½ ounce daily.	a small quantity.	½ ounce daily for smoking.

The quality of the above articles of diet was carefully examined, and found all good of their kinds; and for several months I daily visited the hospital at the diet hour, and saw that each patient received his full share, which appeared ample enough. Besides the articles above enumerated, wheat flour cakes instead of rice, fresh fish, and sometimes animal food, were occasionally given to those who wished for a change of diet. The water of wells was next examined, and although to all appearance pure and good, it was forbidden to be used, and the water from

the jail wells was substituted for drinking and culinary purposes. It may be proper here to remark, that no cases of scurvy have ever occurred in the jail, which is only about 300 yards distant from the insane hospital.

Notwithstanding the above precautions having been taken, and at the same time accompanied with the free administration of lime juice, and other antiscorbutics recommended by writers on scurvy, the disease was not wholly eradicated, but continued more or less till the commencement of the hot weather, when it disappeared. Patients affected with melancholia and mental imbecility, of retired and quiet dispositions, are principally subject to this disease. Those of lively and active, and even quarrelsome tempers, are seldom affected. The ground about the insane hospital and jail is marshy, producing abundant crops of rice, and remaining wet for nearly five months in the year. A worse situation could not have been chosen for those public institutions."

"Scurvy is now generally understood to depend more on a defect of nourishment than on a vitiated state of the provisions; and the reason assigned for salted provisions being so productive of scurvy, is because they are drained of the nutritious juices, which are extracted and run off in the brine. The scurvy which broke out among the European troops at Rangoon, and which I had an opportunity of seeing, differed from that which has come under my observation here, only in being more severe in its form. Living on salted provisions for six months, alone accounted for its appearance there, whatever share the notoriously wet climate of that place might have had in inducing or aggravating its symptoms. To account for its occurrence in this hospital, I am inclined to suppose, from its breaking out during the rains and cold weather, and generally disappearing in the hot and dry,—from its attacking the gloomy and dejected, while the lively and frolicsome, although subject to the same treatment and diet in every respect, are free from it, that humidity and depression of spirits are the principal, if not the only exciting causes. These depress nervous energy, and induce a torpid action of the general functions of the body. The stomach and other digestive organs partaking of this diminished action, do not secrete a sufficient supply of chyle to nourish the body; hence scurvy is induced.

The following treatment was successfully adopted. Regular and gentle exercise was strictly enjoined, and found highly beneficial. The patient was made to walk in the verandah for an hour, twice, and sometimes thrice a day. Bitters and tonics were given to increase the appetite: some change was also made in the diet; milk was freely given, fish and kid curry, or whatever little change the patient wished for, was complied with. Oranges being much relished, were freely given, when in season; astringent gargles for the spongy gums. By pursuing this plan for some weeks, the progress of the disease was in general checked, and often disappeared. In the 2d, or fever stage, together with the above remedies, mild purgatives, such as magnesia, rhubarb, and castor oil, were found most useful in allaying the fever. Bark was also given in powder with advantage. Calomel, or any other preparation of mercury, should never be given in this complaint, as a few grains produce severe ptyalism, which rapidly increases the debility."

The foregoing is an account of the scurvy in one of its worst forms when it appears on shore, but there are certain constitutions which always have a scorbutic diathetis, that may be known by spongy and bleeding gums. In such constitutions it will be invariably found that every preparation of mercury is prejudicial, and will produce violent salivation and such a loosening of the teeth that they will either decay or fall out. Land scurvy generally appears under the form of *purpara hæmorrhagica*, indicated by circular spots of different sizes; often in stripes and patches, irregularly scattered over the thighs, arms, and trunk, debility and depression of spirits, hæmorrhage from the gums, &c. Mr. Hutchinson's case is thus described:—

"The case occurred in one of the seapoys of the 7th Regiment N. I., while that corps was employed in Cachar, in 1825.

He was about 18 years of age, of a full, plump habit of body, very dark complexion, and apparently of indolent habits. He was admitted into Hospital on the 1st of Nov. 1825, in consequence of an apparently rheumatic affection of the muscles forming the calf of the left leg. The part was swoln, hard, and glossy, and felt as if the whole muscles of the part were agglutinated together, by an effusion of coagulable lymph. It was very painful, especially on pressure, and prevented free extension of the leg. The joint of the opposite knee was likewise in some degree, swelled and painful; the pulse was very frequent, but weak, the skin hot and dry, and if I recollect rightly, the tongue was of a dead white and bloodless colour. He was ordered five grains of calomel with a few grains of antimonial powder, at bedtime, to be followed up by a solution of salts with antimonial wine, in the morning.

Next day, I was surprised to observe the face apparently more full and puffy than usual, particularly on one side; on inquiry, I found that his gums had been spongy, and his teeth loose, for some time previous to his admission into Hospital. His gums bled profusely on using the slightest liberty with them, and there was a discharge of ill-conditioned matter, from between them and the teeth.

He had used no mercury previous to admission, and none was given to him, after the first dose.

This was the first case of the sort I had witnessed. In the commencement, it was treated as one of acute rheumatism, and after-

wards when it assumed a more chronic form, guaiac, bark, quinine, &c. were tried, but without the slightest benefit. Although combined with opium, they generally affected the bowels, which were inclined to be irritable.

Oil of turpentine was next had recourse to, and under it, the state of the bowels considerably improved; the stools, though still more frequent than natural, becoming costive, and not unlike rolls of chalky sulphur.

The symptoms were now suspected to be of a scorbutic nature, and lime-juice, and a solution of nitrate of potass in vinegar were administered to him; and as he had hitherto lived on a low vegetable diet, fresh animal food and milk were enjoined, and made use of, but without any advantage. The stomach became weaker, and rejected its contents, although he ate but sparingly.

Latterly, the calf of the left leg was less swelled, but the knee of that side had been involved in the disease: the opposite one remained as before, but both were now in some degree contracted, and the ends of the bones forming them, appeared to have become enlarged.

He remained in this state (very little reduced in flesh) till the 20th of January. In the morning's visit of that day, I observed that his respiration was much hurried, the expression of the eye and countenance was wild and anxious, and the pulse thready and running. These symptoms continued to increase till 11 o'clock A. M. when he died."

On examination after death the liver was found enlarged with adhesions to the diaphragm and the parietes of the abdomen; two ounces of a clear liquor in the pericardium. Mr. Hutchinson states that he had seen several other cases in Cachar, in which the gums were found tumid and separating from the teeth; the gums bled on the slightest occasion, their divisions shot up into large fleshy prominences, and the teeth dropped out as if forcibly ejected from their sockets.

ART II. FURTHER NOTES ON THE CURE OF HYDROCELE BY SOLUTION OF TINCTURE OF IODINE, BY J. R. MARTIN, ESQUIRE, PRESENTED JANUARY 3, 1835.

There is scarcely any remedy of recent discovery that has proved of such never-failing efficacy as Iodine. The most remarkable circumstance is, that it was discovered by a soap boiler, M. Courtois, of Paris. At first reports were circulated from the continent on the other side of the British channel that there was great danger in administering iodine internally, but experience has now proved that in the hands of the British practitioner in all parts of the world, no sinister accidents have occurred from its exhibition. We were among the number, however, who were rather sceptical at first in regard to the reports of the success of this active medicinal substance; we thought its good effects had been magnified, until by frequent trials we are compelled to confess its astonishing efficacy in numerous affections; its trial, however, in the cure of hydrocele by injection as described in the paper now before us, is altogether new, and therefore demands our particular attention. When we say that the merits of this remedy in hydrocele is altogether new, we do not forget that the remedy in another shape has been tried, from its well known powerful effects on the absorbent system. Dr. Elliotson, so far back as 1827, found iodine successful in anasarcous diseases; Dr. William Stokes also, who asserted that dropsy was not to be generally considered a disease *sui generis*, but as the result of some other disease, and that in order to effect its cure, it was necessary to investigate its nature and ascertain its cause: that physician had recourse to iodine in dropsy and witnessed numerous instances of the value and efficacy of the medicine: he relates the case of a lady who had ovarian dropsy to such an extent that her life was despaired of. The abdomen was so enormously swelled that at first sight she appeared to have pillows over her. From the employment of iodine, however, the abdomen became quite soft and compressible, and the enormous dropsical swelling had almost subsided. It was from the well ascertained efficacy therefore of iodine in dropsy, that induced M. P. Record of the Hospital des Vénériens to employ the tincture of iodine with success in five cases of hydrocele. The tincture of iodine was diluted with distilled water, and applied to the tumours by the aid of compresses imbibed with it, and in which the scrotum was enveloped. M. Record employed the tincture in four different degrees of concentration; 1st Tinct. Iod. ℥j. Aqua Distil ℥ iij. 2nd Tinct. iod. ℥ij; Aq. Distil ℥ iij. 3rd Tinct. iod. ℥iij; Aq Distil i ij. 4th Tinct. iod. ℥ij; Aq ℥ iij. In subjects whose skin was very delicate and

epidermis thin, the last formula was employed. Where there was sensibility and some hardness of the tissues the other formulæ were employed. We are unable, however, to ascertain that iodine has ever been used in the form communicated by Mr. Martin.

Mr. Martin states that hydrocele is common among the natives of Bengal ; its cause is ascribed to gonnorhea and its consequences as being most active on constitutions predisposed to serous effusions, also in constitutions that have been affected with intermittent fevers, and thence suffered from recent enlargement such as the spleen. Mr. Martin appends a table which shews that ninety-five cases of hydrocele have been treated in the Native Hospital. Our author quotes Sir Astley Cooper's opinion, who alludes also to Sir J. Earle's method of curing hydrocele by injection, Potts by seton, Else by caustic, Hunter's by incision. Sir A. Cooper had witnessed the operation of incision of the tunica vaginalis two or three times, but he had expressed a hope never to see it again. Mr. Martin alludes to the preference over all other methods to the operation by a stimulating injection as introduced by Sir James Earle ; but that in the hands of some of our best Surgeons has been found prejudicial. Sir C. Bell alluded to the danger of fluid getting into the cellular substance. It was the knowledge of this circumstance which led Mr. Martin—

" To think of another mode of cure. About two years and a half ago, I injected a native with the port-wine solution ; but after a few minutes seeing a person brought into hospital wounded and bleeding violently, I carefully handed over the case to a young assistant, the only person I had disengaged at the time, desiring him to evacuate the fluid, after the proper period. When this had arrived, however, a native dresser came to me, and said with much importance of manner, Sahib, the injection will not come. In fact, the boy had allowed the canula to slip partly out of the tunica vaginalis, and the scrotum was infiltrated. It proved a tedious case : there occurred sloughing discharges, and a painful confinement ; but the man recovered ; and I need not say that the cure was a *radical* one. The very next case that presented, was operated on in the manner hereafter to be described : and as upwards of ninety have since been treated in the same way, without danger or inconvenience whatever, I am induced to hope that the present operation may be considered an improvement on that of Sir James Earle.

The operation was performed in the ordinary way ; but in place of the warm solution of wine, two common urethra syringes full were injected, of a solution of tincture of iodine, in the proportion of two drachms to six of water, of the ordinary temperature. The patient was placed in the recumbent posture, on account of rapid faintness, the canula withdrawn, and the injection retained ; the scrotum being moved about freely for a minute, so as to bring the injection within the whole of the vaginal cavity. The pain appeared rather more severe than from the common injection ; but on the 13th March, 1832, five days after operation, he demanded his discharge ; scarcely any treatment having been requisite, while in hospital.

Aness, barber, well known to the fashionables of Calcutta, had a very large hydrocele on the right side, for five years. The solution of iodine was thrown up, and retained as above. The pain continued for four hours, shooting up to the loins, and he was feverish in the afternoon ; but after that, he went about his occupations in a gig, daily, without inconvenience. I inspected him eleven months after the operation, and the cure was complete.

Out of the number stated in the list, eleven were Christians, and perhaps in some of them the inflammation ran higher than in the average of natives ; but even here, evaporating lotions and a smart purgative were sufficient.

In only one case did I observe symptoms of a dangerous tendency to supervene ; and as it even tends to confirm the safety of the operation, it may be worthy of mention. It was that of a Mahomedan labourer, who went about his occupations for fourteen days after the operation, and came into hospital on the fifteenth, with a highly inflamed and shining scrotum. A few leeches, an evaporating lotion, and a purgative, prevented any accident.

Finding the proportions in the injection at first used, to answer so well, I have never altered them ; nor need there perhaps be any change, even when Europeans are subjects of operation.

In Mr. R.'s case, and that of a few robust Mahomedans, who use animal food, but one syringe full has been injected, and this quantity may be found sufficient in the cases of most Europeans.

The effects of the iodine solution seem to be immediate, the inflammation arriving at its height in about 24 hours, and after that, subsiding rapidly. In only two instances has bleeding by leeches been found necessary. Poultices, cold lotions, and purgatives have generally constituted the treatment ; and even these, as will be seen by the table, have not been had recourse to in a large proportion of the cases, which, for the sake of brevity, I have here arranged in a tabular form."

Mr. Martin then proceeds to state the advantages of the iodine injections.

1st. It is altogether free from the danger to life so frequently occasioned by the former operation of injection with wine solution.

2nd. The cure is effected in from three to five days, in place of from fifteen to twenty-five.

3rd. The operation is greatly simplified, so much so, that any person, at all acquainted with the anatomy of the parts, may operate; and the injection being so small in quantity, and what is more important, *retained*, infiltration is next to imposible."

The paper in the 2nd part, VII. vol. of the transactions under review, is a confirmation of the preceding treatment. We quote the most important portion of it:—

"Twelve cases of double hydrocele, treated *on both sides at once*, and which recovered with quite as much ease and expedition, as the single cases.

The first case here quoted has been furnished to me through the kindness of Dr. Graham, of this city. It is interesting so far, as it shews, that a much larger quantity than I have tried may be injected with safety; but if there be any superiority in the Iodine injection, as used by me, it consists *in the smallness of the quantity used, and its being retained;* for I believe with Sir Charles Bell, that in the hands of the best surgeons, infiltration may and does "very frequently happen" with the port wine solution, owing, as I conceive, to the action of the cremaster muscle, excited by pain, drawing the cavity of the sac off the end of the canula. Mr. Brodie* considers, that with the wine solution, danger is incurred by the cavity of the tunica vaginalis being distended by the injection "quite as much as it was distended before," and that infiltration happens "in this or in some other way." Sir Astley Cooper† says, "The operation of injection is not entirely devoid of danger, and it results from throwing the injection into the cellular membrane of the scrotum. I have seen many cases, in which extensive sloughs were produced." There is another point, and an important one, in which the superior stimulating effects of the Iodine injection would appear to give it a preference to the wine solution, *its greater certainty of action.*

The port wine injection very frequently fails, as every surgeon must have seen. On this subject I will again quote Sir A. Cooper, who with his accustomed candour declares, that "this operation sometimes fails "in producing sufficient inflammation to ef-"fect a cure. I once asked Sir James Earle, "if he did not sometimes fail; and he "said 'scarcely ever.' This is quite contrary "to my experience; for I sometimes fail, and "should very often do so, but for great care "in the after-treatment, upon which, I think, "much depends. I sometimes, when the "water is reproduced, a few days after the "operation, tap it, to remove the serum, "and produce by this operation a larger "share of inflammation." From such dangers, failures, and inconveniences the present operation would seem entirely free, and I think I am warranted in drawing the following additional corollaries:

1st. The operation with Tincture of Iodine solution is greatly less liable to failure than that with port wine solution.

2nd. No serum has ever been "reproduced a few days after the operation," with the Iodine solution.

3rd. Care in the after-treatment, upon which so "much depends" in the old operation, would seem here to be little requisite.

Dr. Graham concurs with me in opinion as to the effects of the Iodine injection, and has gone further, than I ventured to do, in speaking of its advantages, I have greatly to thank him for the case of Mr. M, which is as follows:

"I have much pleasure in bearing testimony to the improvement introduced by you in operating for hydrocele; it combines safety with certainty, and will, I hope, ere long, be universally adopted. In the case of Mr. M———, on whom I operated in June last, the port wine injection had been previously tried unsuccessfully, and I gladly availed myself of your recommendation of the Iodine solution. I injected two ounces, and allowed it to remain for three minutes, rubbing the scrotum during its retention: pain of the back was severe for a time. The fluid was withdrawn, with the exception of two drachms, which I allowed to remain. No violent inflammatory action ensued, and upon the third day, the gentleman resumed his business, and has continued perfectly well ever since. I have used it with the same success in several cases of native patients. The profession in my opinion ought to be much indebted to you, for presenting so mild and sure a cure to their consideration.

"Yours, &c.

"*Nov. 4th*, 1834. "W. GRAHAM."

"P. S. I may add, that the reason for deviating from your plan of merely throwing in two drachms of the solution, and allowing it to remain, was the patient's great anxiety to get rid of the complaint.

In the other cases, I pursued rigidly the plan advanced by you, and so confident am I of its superiority over all, that I shall never pursue any other."

The next case was that of a gentleman, whom Mr. Bramley brought me in July last, and I am indebted to him for the following observations on it:

"In reply to your note, I have much pleasure in informing you, that my patient, on whom you operated for single hydrocele, in the presence of Mr. Mercer and myself, is perfectly cured:

"I shall premise the few observations I have to make on this case, by stating, that though Mr. R. might be considered a robust and healthy man, that he nevertheless could not be said to be the best subject, for this, or indeed for any surgical operation, in consequence of his being naturally predisposed to a peculiar irritability of the nervous temperament. In proof of this, it is sufficient to mention, that he has more than once been known to faint while having his hair cut.

* Clinical Lectures on Hydrocele.

† Observations on the Structure and Disease of the Testis.

"In regard to the operation you may remember, that after the fluid (about 8 oz. in quantity) was evacuated, the patient suddenly fainted, and that when re-action was in some measure established, the tunica vaginalis was injected with two drachms of the Iodine solution; that scarcely had the injection been introduced, than it seemed to produce such excruciating pain in the testicle, passing along the spermatic chord, to the loins, as completely to throw the nervous system off its balance, as was evinced by the patient suddenly falling into a state of false epilepsy, from which he did not recover for at least half an hour.

"Whether these unusually severe symptoms were the result of excess of pain, produced by the injection, or whether the peculiar idiosyncrasy of the patient, might be deemed sufficient to account for them, is a question I do not pretend to determine; but it is useful to know, that from whatever cause they may have arisen, their occurrence would not seem to militate against the use of the Iodine solution for the cure of hydrocele. This, I think, is sufficiently evident from the fact, that the subsequent inflammatory process was not more than adequate to effect a radical cure, since the after-treatment consisted merely in pursuing a mild antiphlogistic course, and keeping the patient in the horizontal posture, without the necessity of employing either local or general blood-letting. On the eighth day he was permitted to walk about; and from that time, he gradually recovered.

"It is worthy of mention, that the testicle on the same side as the hydrocele had been considerably enlarged for some years, in consequence of an accident; and that since the operation has been performed, its size has become much reduced, and he now feels no inconvenience from it whatever.

"Your's, &c.

"M. J. Bramley.

"*Calcutta, Dec. 21st*, 1834."

The peculiar irritability noticed by Mr. Bramley, in this last patient, appeared to me at the time to arise from the free use of tobacco, (cigars;) of the injurious effects of which on the digestive organs, but especially on the nervous system, I have seen many severe instances amongst the young officers of our army.

I think, it was this that caused the pain, in all cases very severe, from the Iodine injection, to be felt with such peculiar violence. However, no untoward symptoms followed, and I have nothing to add to Mr. Bramley's excellent description of the case.

The largest single hydrocele I have ever seen, was that of Shaik Edue. The patient was fifty years of age, and the complaint, which was on the right side, was of ten years standing.

Mr. O'Brien, who has treated most of the cases in this list, performed the operation with four drachms of the solution. The tumour reached to near the knees, and contained the enormous quantity of *ninety-two ounces* of greenish offensive scrum. Excessive distension had caused slight inflammation of the scrotum, the pain, from both which, drove him to the Hospital for relief. He was quite well in eight days, when he went home.

The only caution that appears to me necessary, in the performance of the injection with Iodine, is to see that the syringe is in good order, that the piston fits well; otherwise air will be injected, and the operator deceived as to the quantity of fluid used.

TO RECAPITULATE.

1*st*. The operation with solution of Tincture of Iodine would seem free from the danger of infiltration.

2*nd*. It is more certain in its effects, than any former injection.

3*rd*. The cure is effected in a shorter time.

4*th*. It is much easier of performance.

5*th*. No serum has on any occasion been "reproduced, a few days after the operation," demanding a second tapping.

6*th*. The care in after-treatment, on which "so much depends," with the wine solution, would not seem here to be requisite.

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Calcutta: May 1, 1836.

DR. O'SHAUGHNESSY'S INTRODUCTORY LECTURE.

In our present number we have given Dr. O'Shaughnessy's introductory address at the Medical College, which, we have no doubt, will be found exceedingly interesting to our mofussul brethren,—instructive to the uninitiated, and highly honorable to the young professor. We ourselves were so delighted with its simplicity of detail, talent in composition, and ability in its delivery, that we lament there is any portion of the lecture from which we must express our dissent. But this is merely on one or two assertions. Dr. O'Shaughnessy's friends would no doubt wish to withhold this difference of opinion: legitimate criticism however admits of no such compromise, neither does our friend, Dr. O'Shaughnessy, who has frankly told us, when we explained to him a Reviewer's duty, that he desired we should honestly discharge it. Our heart yearns towards our brother, and will beat high with exultation when we see him mount the hill of knowledge through the ranks of error, and plant on its summit the banner of victory. We do not exag-

gerate when we say that no country is in possession of a more aspiring disposition, more brilliant talents and ardent devotion in the cause of science than India in this sojourner from the lovely land of Erin.

Dr. O'Shaughnessy has ever had, and justly, a warm friend in that talented Reformer, the Editor of the *Lancet*. When he reviewed our professor's work on the chemical pathology of the Cholera, he alluded to a particular section of it, and thus remarked:—

"To this section of the essay we would call the particular attention of our readers, inasmuch as it is a strictly logical series of deductions, disfigured neither by empty hypotheses nor by untenable and wild speculations. This is what we want in medical reasoning. Let nothing be argued upon until proved; let no fact be received until its truth is established; then and not till then, will medicine rank as a science, and the disputes and cavillings of its professors become susceptible of adjustment according to exact and incontrovertible data."

Now Dr. O'Shaughnessy, no less than ourselves, concurs in every word of the above quotation, and therefore we are satisfied that he courts discussion on any disputed proposition he may have advanced in his lecture.

Alluding to the instantaneous benefits invariably derived by restoring the fluidity of the blood by injecting the substances it had lost directly into the veins, Dr. O'Shaughnessy observes as follows:—

"The number of cures obtained almost miraculously by its use, prove, at all events, the correctness of the principles on which it was founded. It is said to have failed in many cases. This is not surprising for many reasons. The patients on whom it has been performed hitherto have in a vast majority of cases been either dying or actually dead. We could not pretend to work miracles by this or any other method. But independently of this, the thoughtlessness or ignorance of many practitioners in performing the operation with common instead of distilled water, is quite sufficient to account for many of the repeated failures; and for this reason, common water invariably contains atmospheric air, and the injection of a minute portion of air into the veins is so rapidly fatal, that this is the mode now adopted for killing horses at the tanneries of Paris."

With respect to the first clause of the foregoing extract, the result in the practice of injecting saline substances, so strongly recommended by Latta and followed by a considerable number of practitioners in various parts of the world, is similar to the result of experiments in transfusing and injecting first instituted two centuries ago, when immortality was anticipated by a credulous community, and promised by the zealous and indefatigable advocates of this new discovery, of conveying the arterial blood of one man or animal into the veins of another. At the period to which we are alluding, there was a body of Physicians who attributed all diseases to what they denominated "vice in the blood." To correct which they were in the habit of injecting various medicines into the veins to mix with the blood, or transfusing healthy blood in the place of that which they deemed diseased. By this means it was thought the action of medicine on the blood would be immediate and entire, without being impaired or changed by passing the stomach and intestines. Thus it was maintained that even old age might be supported and the very worst habits of body corrected by these means, so as to give a firm, juvenile, and healthy constitution. If our readers will turn to the early volumes of the Philosophical Transactions, they will find some interesting and highly amusing notices on this subject. There existed a warm literary warfare as to who it was that made this glorious discovery. Dr. Lowis wrote his treatise *D'Corde*, in opposition to M. Denis, who, in his epistle written in French, claimed the invention. Strumius, a professor of mathematics at Attorf and Vertrius, professor at Frankfort, gave the honor to Maurit, Hoffman. Authors however of the British nation, desiring to covet the honor for their own countryman, assert that the first injection of liquors into the veins of animals was by the celebrated Christopher Wren. But what was the result of all this clamour among these Philosophers? The doctrine of transfusion had its day and the vast expectations which had been formed, ended in an universal acknowledgment among the learned heads of Physic, that the remedy was worse than the disease; that all the patients that had been treated in this way, instead of becoming the re-

generated, youthful, sprightly, and energetic men, degenerated into stupidity, foolishness, or into raving or melancholy madness; while others were taken off by sudden death, either during, or not long after, the operation. These numerous lamentable and fatal consequences brought these injections and transfusions into disrepute, and it was prohibited by a public edict of the Parliament. So much for the popular rise of this mode of remedy two centuries ago. We now come to later periods, or rather to that when Dr. O'Shaughnessy's experiment had revived the system. He quotes the practice of Latta, of Leith, and gives a case and a favorable result, so far as Dr. O'Shaughnessy states it. But by our professor not stating the whole case, his hearers and our readers would have supposed that the patient had recovered—but alas she died. We will conclude the history of the case where Dr. O'Shaughnessy left off as communicated by Dr. Latta. "This being my first case" says Dr. Latta, "I fancied my patient secure, and from my great need of a little repose, left her in charge of the hospital Surgeon, *but I had not been long gone*, ere the vomiting and purging recurring, soon reduced her to her former state of debility. I was not apprized of the event, and she sunk in five and half hours after I left her." So much then for this case, which did not, however, lessen Dr. Latta's confidence in his remedy. Dr. Latta states that in cases where he did not cure, the failures were attributable "either to the quantity injected being too small or its effects being rendered abortive by extensive organic disease, or its application being too late." Let us now turn to other practitioners, and observe the result of their treatment. Dr. Lawrie, of Glasgow, following the directions of Latta, injected from 70 to 150 ozs. within a few hours and all his patients died, viz., six in number*. In all these temporary benefit was produced, but in several the fatal result seemed accelerated. Dr. L. then limited to 30 ounces at a time thrown in very slowly and carefully, watching the effects. *Under these precautions four have recovered;* "but so many have died in despite of all precautions, injured evidently by the practice, that I have now almost entirely laid it aside, as not only useless but frequently hazardous;" Dr. L. injected 26 cases, 22 of whom died. Dr. L. witnessed the phenomenon—the drain of fluids from the bowels as fast as the injections were thrown into the veins. One patient made this remark "as fast as you put the water in my veins it runs out of my stomach"

Dr. Wright, whose remarks will be found in the *Lancet*, Feb. 9, 1833, states the same fact. He observes:—"by the saline injection fluidity is restored to the blood, but it is like water poured into a sieve,—the liquid runs off by the bowels which are not at all acted on by the saline injections, and the patient too often sinks from a state of revival into one of fatal relapse." Dr. Wright collected from various periodical journals reports of 105 cases, in which fluids of various kinds were injected generally in solution of salts, out of these 78 died—22 were under treatment and only 5 were cured; so that Dr. Wright observes "the method has not often been successful and seems now pretty generally abandoned." We could multiply our quotations from numerous works now before us of the practice of some of the most able practitioners in Europe, who injected the fluid most judiciously and at a proper temperature, but who found the most disheartening results, but we have not space. We proceed, therefore, to the second clause of our quotation, where Dr. O'Shaughnessy observes, "we could not pretend to work miracles by this or any other method. But independently of this, the thoughtlessness or ignorance of many practitioners in performing the operation with common instead of distilled water, is quite sufficient to account for many of the repeated failures; and for this reason, common water invariably contains atmospheric air, and the injection of a minute portion of air into the veins is so rapidly fatal, that this is a mode now adopted for killing horses at the tanneries of Paris." Any water distilled or otherwise becomes

* See Med. Chir. Rev., Oct. 1833.

impregnated with a greater or less abundance of air when brought in contact with the air, and it is not improbable that the water in the hands of those very operators, who had boiled the water to exclude the air, admitted it when introducing the solution into the syringe. This would have been a better argument for Dr. O'Shaughnessy, could he have proved such to be the case on which to ground his objections. But we find Dr. Latta avowing that he was careful in excluding the air, and warns other practitioners to be careful also. We come therefore to the opposite conclusion to that at which Dr. O'Shaughnessy arrived, that practitioners did not by thoughtlessness and ignorance perform the operation. But the fact is, it is too often difficult to exclude the air altogether, and allowing that it could not be done, this would not strengthen Dr. O'Shaughnessy's argument that this was the cause of failure or success in recovering patients by injecting saline substances in the veins, for experiment disproves our lecturer's declaration "that the injection of a minute portion of air into the veins" is "rapidly fatal." This declaration reminds us of that report of an extraordinary event which occurred at Paris. It is stated that M. Dupuytren being about to divide a large varicose saphena vein, expressed some apprehension that air might be admitted, and that the result would be fatal. The vein was divided, the peculiar sound of the entrance of air was heard, and the patient expired. It will be found also in the *Lancet* 1832-33, where after some operations, air had forced itself into the veins and produced serious results. All this favors the opinion of Dr. O'Shaughnessy; but we have experiments to prove that air only when injected in large quantities is dangerous. We would in the first place refer our worthy professor to M. Segalas' experiments on the blood, who injected a good deal of water into the veins. So did M. Majendie. But this is not so much to our purpose as to shew that a certain portion of atmospheric air may be injected into the veins with impunity.

We refer to Dr. Dreffenbach's work. It will be found that Nysten's experiments prove that a small quantity of atmospheric air injected into the carotid had no effect whatever. A large quantity caused general paralysis, but seemed to have no direct influence on respiration and circulation, which were for a considerable time regularly performed. We are aware Dreffenbach's account may be disputed to come nearer home, therefore to an author for whose accuracy of description and integrity for detail our readers will have the highest respect. We beg to refer to volume IX. Medico Chirurgical Trans. wherein is a very able paper by Dr. Blundell on experiments on the transfusion of the blood by the syringe. To ascertain whether the introduction of air would occasion death, five drachms of atmospherical air were injected into the femoral vein of a healthy dog, which was scarcely larger in the body than a full sized cat, but the animal suffered little injury. In a second experiment upon the same dog, about three drachms were blown into the femoral vein without even producing temporary inconvenience. "So that" observes Dr. Blundell, "it seems indisputable, that small quantities of air may enter the vessels without destroying life. Nor is this principle, which is confirmed by similar experiments of Dr. Haighton and others, materially invalidated by those which have been made on the horse. For although it be granted that this animal may be killed by blowing air into the veins, this will bear with little weight upon the present question unless the quantity of the air and the manner of its introduction be also ascertained."

Before we conclude these remarks, we cannot help expressing our surprise that scarcely any of the senior members of the profession have attended Dr. O'Shaughnessy's highly interesting lectures. Surely to have attended would have been but that encouragement, to say the least, the young professor had a right to expect from the heads of his department. But it is lamentable to perceive the little apparent desire to watch

the advance of Chemical Science as shewn by experiments. Does not this indifference put into the enemy's mouth the railing accusation that if they were paid according to their possession of a clear understanding of the present state of Science, every one would soon hasten to profit by the intelligence of the day? But in Chemical Science what immense improvements have taken place we need only advert to them in the doctrine of definite proportions, the accession to the list of elementary bodies, the discovery of an entirely new class of substances—chlorine, iodine, bromine, &c., beside the interesting researches in organic chemistry, especially as regard a peculiar physico-organic action inherent in animal tissues. The medical man who determines to live in wilful ignorance of these things which tend so largely to subserve the man of science and humanity, determines to extinguish the fire of enthusiasm and research which we must suppose in earlier days had been kindled in his bosom.

ON THE INUTILITY OF INDENTING FOR SUPPLIES OF MEDICINE FROM EUROPE.

The present moment is a fit one when lectures on chemistry have commenced to call on Government to institute an efficient laboratory, with establishment, for the purpose of making this country independent of Europe for supplies of medicine: Dr. O'Shaughnessy very justly observes:

"I have taken the trouble of counting the number of medicines now imported from Europe. They amount to several hundreds, all of which, except 80, may be prepared or grown in this country. For these 80 many efficient substitutes exist in known indigenous productions."

Dr. O'Shaughnessy's suggestion is not a new one; successive Secretaries of the Medical Board and Apothecaries-General have urged upon the attention of Government the necessity of supplying India with medicine by means of a laboratory at the Presidency. Mr. Pearson, the present Deputy Apothecary General has the merit of submitting a specific plan for the consideration of Government, but it is to be lamented that neither his suggestions nor those of others, as far as we have been able to ascertain, have yet met with the consideration their importance demanded. When we bring to the notice of the Government that innumerable deaths have occurred in India from a want of medicine supplied from Europe, and most fatally shewn during the late war in Arracan, and the prevalence of the epidemic in 1833, we need not, we are sure, solicit in vain attention to the propositions we are about to make on the establishment of an efficient laboratory in India. We shall premise the observations we have to make by adverting to the very judicious and valuable suggestions to which we have already alluded by Mr. Pearson. In the letter which he addressed to Lord Wm. Bentinck, in May 20, 1833, Mr. Pearson observes:

"At present there are four sources from which the supply of medicines for the public service is derived, viz. England, the Laboratory of the Honorable Company's Dispensary, the private dealers in Calcutta, and the bazar."

With respect to the first, it appears that —"The indent on England is prepared in the office of the Dispensary, at the expence of great labour for several months, by deducting the daily expenditure from the quantity in store at the last annual survey, and by taking the average of the last three years. In the former of these processes the labour is immense, and the latter, though unalterable to any better mode, gives fallacious results; for, taking the average of three years, would infer those years, and the one for which the indent is in progress, to be exactly alike; if they are not alike, the average cannot be just. For example, it will be seen that a single year of war, or of more than ordinary sickness, would throw the whole scheme into confusion by causing a larger quantity of medicine to be ordered for that year than was previously calculated upon; and by increasing the average of the succeeding years: and this would in the end produce an accumula-

tion of stores in the Dispensary, where they must be allowed to remain until spoiled, or sent to auction, and sold for not one tenth, perhaps, of their value, which actually did occur to a large amount during and after the Burmese war.

"But this is taking the most favourable side of the question. The medicines required may not be procurable at all from there being none in the market; or those procurable may be of an inferior quality. Then, should a disease like that of 1818 break out in camp, as that did in the camp of Lord Hastings, it is not impossible but an army may be compelled to retreat from want of remedies with which to heal the sick. These things come home to every man, for no one knows the personal consequences they may entail upon himself or his family, when sick, having no medicines, or from the best he can get, being of a bad quality.

"Nor should other contingencies of this system of supply be forgotten: such as the loss of a ship on her voyage; or the damage of any part of her medical cargo; or the articles themselves being in the first instance of an inferior quality; or something may have been omitted in the indent.

"Upon this complex piece of machinery it is unnecessary to dilate further than to say, how completely in accordance all its parts must be, to get it to work at all. The loss of two ships at the commencement of a war might put an army *hors-de combat* for the whole campaign. In a word, it is essential to the well doing of the present system, that there should be a strict concord of things in their very nature discordant, of darkly defined superior and inferior authority, of distant and differently thinking men, of mere chance and stern calculation, and consequently, the most trifling accident at any time throws all into confusion. It must, therefore, surely be an object to dispense with the whole scheme as much as circumstances will admit of."

So much for the result of obtaining supplies from England. We now beg to call attention to the laboratory; with respect to it, we have only to mention that it is attached to the Dispensary, but so small as to be incapable of supplying more than the common current demands made upon it; and is quite unequal to any emergency. While it requires as much skill in the officer who superintends it, as a laboratory of dimensions adequate to the complete supply of all our wants.

But on the last means of applying to private dealers and the bazar, Mr. Pearson remarks that—

"When the stores at the Dispensary have from any accident become low, an order has usually been issued by the Medical Board, to buy from the private dealers, or the bazar, on the principle that no consideration of expense can be put in the balance against the consequences of depriving hospitals of the necessary medicines. This, however, seems to have fostered a system of fraud; for, in such cases, the private dealers attempt to supply the inferior articles of their shops, whilst the knowledge that nothing but absolute necessity brings the Dispensary to their market, enables them to dictate the price; and that price is generally (I may say always) an advance upon the prime cost, more exorbitant than any one but a Calcutta tradesman can possibly conceive. On the other hand, if the bazar is resorted to, little gain can be boasted of; for although the prices may be more moderate, the chances of adulteration are infinitely increased."

If there be any weight in these objections to the system of private shop, bazar and present laboratory supply, they surely should be corrected, and that with as little delay as possible. For this state of things, Mr. Pearson has very properly remarked that—

"But one remedy presents itself. The preparation of medicines in Calcutta in a laboratory sufficiently large to make the supply equal to any demand that can be made upon it. And, for this, the facilities will appear to be very great, when it is considered that almost every article of materia medica is the produce of this, or of the adjacent countries; some few only being brought from the new world; and fewer still the productions of Europe; whilst the rate of

labour cannot be estimated as higher here than at home; and should the bazars be examined it would be found that crude articles may be procured here in the greatest abundance, and at prices lower than they can be met with in Europe. This would, of course, be the case were the charges of exportation alone added to their prime cost here; and it needs little calculation to discover that the transmission of such articles as sal-ammoniac, for instance, through the hands of merchants and shippers, and chemists in India and at home, together with the charges of re-transmission to this country in the form of smelling salts or sal volatile, must be more expensive than the manufacture of those articles from it here; letting alone, too, the interest of money during the months of their passage, and the years, perhaps, of their being in store, with the chance of their spoiling in all this time, and the risk of their being damaged or totally lost on the voyage.

"I have daily opportunities of witnessing that articles of materia medica may be procured in Calcutta in any quantity. For example, sarsaparilla may at particular periods be purchased in the bazar of a quality equal, if not superior, to that brought from Europe; it being conveyed in Spanish or Portuguese ships to this mart. Rhubarb may be procured direct from China equal in all respects to the so called Turkey; which indeed, it would be strange, could it not, all the rhubarb of commerce under whatever denomination, being the produce of that country. Mercury also comes from thence, the Philippines, and Pern; salt, nitre, catechu, musk, soda, and the blistering fly (not that of Europe, but the mylabris cichorii of naturalists) together with a long list of articles, in the animal, vegetable and mineral kingdoms, forming nine-tenths of the medicines of our pharmocopœias, are the produce of this splendid country, lying on every side ready to our hand.

"Nor does this contradict the assertion of a former part of this memorandum, concerning the mischiefs of a bazar supply under the present system. Our purchases are now of crude and manufactured articles, then they would be confined to the former alone; now they are retail, then they would be wholesale; now we are compelled to go at all hazards and at all prices into the market, then we should be able to await its favourable turns; now we purchase what we can get in the hurry of the moment, or go without them, then we should have time to examine, to compare and to analize, and to be certain that our bargains are good.

"But there are other reasons on the score of economy which may be urged in support of this plan. At present two years' and a half supply must be kept constantly in store, where of course some articles spoil by keeping, and are condemned by the committee and destroyed, and a large loss is further entailed by the interest of the cost of these $2\frac{1}{2}$ years' supply remaining unproductive for ever. But, by manufacturing the medicines here, no more than six or eight months' supply would be needed to be kept in store, even at Madras or Bombay, and some articles of a spoiling nature might be made from month to month merely as required. Thus the saving on these several points, particularly on that of interest upon the whole outlay of the three presidencies, would do much more than pay the charges of the laboratory establishment.

Such then are the suggestions of the present Deputy Apothecary at the Honorable Company's Dispensary. It must be conceded that this gentleman is fully qualified by experience and knowledge to offer an opinion, and from his acquaintance with the details of the management of pharmaceutical processes in this country, that opinion cannot but carry great weight in support of the position we have advanced, namely, that of establishing an efficient laboratory in India. At present it does not possess any means for powdering beyond the common pestle and mortar. Dr. Jackson, now officiating as Apothecary has submitted to the Medical Board specimens of different articles pulverized by him in the triturating mill of the Gunpowder Agency at Ishapore, and requested permission to prepare a suitable apparatus, and which proposition, we are glad to hear from him has been referred to Major Hutchinson and Captain Forbes in conjunction with himself to bring to maturity.

Before we conclude our remarks we cannot do better than advert to some very judici-

ous observations made to Government by Mr. Muston, the late Apothecary General. Who thought that this public servant should have a seat in the Medical Board ex-officio, which, while such a Board exists, we are unquestionably of opinion is a very desirable object. Mr Muston thought that then his department would be placed in a position equal in efficiency with the ordnance and others of a similar nature. "To a want of pharmaceutical knowledge in the Board and dislike or ignorance of it," observed Mr. Muston—

"Must I attribute their misrepresenting my plans, in 1826, to Government, and decidedly opposing my proposal at that time, to spend my absence on sick leave in England, for the purpose of gaining a knowledge which is new to our profession.

"The proceedings and report of the late Special Committee have gained for me the laboratory, and I now want a proper assistant, who, after much exertion, is, I believe, to be proposed to your Lordship in Council. The Committee have also advocated part of my plan (sending up stores in bulk to save godown-rent), but that of *employing* the surgeons in charge of depôts, they left to the Board; and this, my lord, is of great importance as regards economy and efficiency.

"I knew if I were Secretary I could carry these and all other points vivâ voce with the Board, and although your Lordship has made other arrangements, I have taken the liberty of bringing the outline I intended to have presented, in case at any future period it might appear advantageous to resort to the measure.

"The state the department is in, for want of free and open intercourse with the Board, is very distressing, and correspondence, I know from experience, only tends to retard improvement.

"Is it right, I should say, the Apothecary General has *no control similar to other officers with a similar designation*; e. g. in the present instance, servants have been discharged before the arrangements determined on, as admitting of their dismissal, have taken place. We have a fire-engine also, without people to take care of it, or work it if wanted; and in the new laboratory, I was obliged to employ on my own responsibility the person I have recommended as Laboratory Assistant, to give me a plan on the model of the best constructed in Europe, or to have built it on the old plan.

27*th July*, 1830.

OUTLINE OF ADVANTAGES OF THE UNION OF THE TWO OFFICES.

1st. *The correspondence, which would be unnecessary if the Apothecary General were ex-officio Secretary to the Medical Board.*

Replies to letters received with copies of ndents supplied from the depôts.

From the Board.

Ditto ditto with invoices for Europe supplies.
Ditto ditto relating to survey reports.
Ditto ditto ordering supplies to depôts.
Do. do. do. supplies for the use of troops embarking for England,
Ditto ditto directing stores for shipment to residencies and dependencies.
Ditto ditto with returned stores.

N. B. Miscellaneous correspondence is not included in the above.

2nd. *The number of books kept in the office of the Honorable Company's Dispensary, from which duplicate accounts are transmitted to the Board.*

1 Monthly Account Book.
2 Quarterly ditto.
1 Annual ditto.
1 Survey reports.
1 Annual Indent on Europe.
1 Copies of Europe invoices.

7 Total.

"The copies* of indents supplied from the depôts are received through the Medical Board Office, to be entered and charged in the books of the Dispensary; and the same are afterwards included in the quarterly accounts transmitted to the Board in duplicate, all of which by a union of the two offices would be unnecessary."

Mr. Muston maintained a long correspondence with the Medical Board on the subject of reforming his department, and we think in justice to that zealous medical servant, we are bound to shew its importance by quoting the objects advocated in his letters to the Medical Board.

"The fundamental principle of efficiency combined with economy.

Power of *internal* supply on all emergencies.

Attainment of medicines of unvarying qualities.

Efficiency in all Medical depôts; and where advantage could be taken of localities, to prepare and distribute certain indigenous medicines *now* sent from Calcutta.

Systematic order and simplification of forms and accounts, tending to shorten correspondence, lessen the number of books kept in the office, and lighten the burthen of the dâk.

The confidence of the Board, a knowledge of their views, and an acquaintance with the orders of Government, and of the Honorable Court, respecting my department.

A laboratory sufficient to the end in view, and a qualified person to conduct its operations.

A connection with the depôts, and authority over the surgeons in charge of them.

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* Number of copies (363) received in the present quarter.

An union of the two offices, by making the Apothecary General ex-officio Secretary to the Medical Board.

A knowledge of Medical chemistry in the Secretary, or some member of the Board.

1st. The head of a department having no communication with its branches—is not a free agent in it, and therefore, without responsibility.

2nd. The impossibility of proposing improvements with any chance of being understood, and the obvious risk in so doing of being in opposition to the views of the Board.

3rd. The insufficiency of stores, both here, and at the depôts especially, on the breaking out of a war.

4th. Lavish expenditure, from the necessity of going into the market at such times for supplies, where we must pay *any* price that is demanded; and where, no doubt, we often re-purchase old and inert medicines, which had been sold at the conclusion of a former campaign.

5th. The frequent arrival of supplies on "emergent indents" from Europe, to meet the war, when that war is at an end; and, of consequence, the necessity for selling off the same at extreme disadvantage, as we have done already, and must further do from the great supplies of many articles still in store.

The lessening correspondence and official details, also the number of documents and books now kept in duplicate.

Savings in writers' salaries, and stationary, office, and house-rent.

The being in direct communication with the Board, who are essentially Apothecary General.

His being able to act in concert with the Board on all occasions; whilst the anomaly that now exists of a head of a department, being without power or responsibility, would cease."

LECTURES

ON

MATERIA MEDICA, OR PHARMACOLOGY

AND

GENERAL THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

By Jon. Pereira, Esq. F. L. S.

INTRODUCTORY LECTURE.

Gentlemen,—If we compare the two kingdoms of nature, the organized and the mineral, we can scarcely fail being struck with one very remarkable distinction—namely, that the first has what may be called two modes of existence, the one termed *health*, which I shall take the liberty of designating the *normal* condition; the other denominated *disease*, which by way of contrast, we may regard as an *abnormal* state. Each of these conditions has a science appropriated to itself; physiology treats of organized beings in the healthy state, while pathology is devoted to the condition of disease. Among minerals, however, we find no existence analogous to that of disease, nor any science corresponding to that of pathology; their active properties never vary either in degree or kind, and therefore their phenomena can be anticipated and calculated. Among living beings, on the other hand, we find, as the illustrious Bichat has remarked, that the functions are subject to numberless varieties, frequently exceeding their natural degree, and baffling all calculation. We cannot foresee or foretell their phenomena: we judge only by analogy, which in the vast proportion of instances is extremely uncertain.

The existence of all living beings, whether we regard them in their normal or their abnormal states, is limited; and therefore death is common to both conditions—"*Fugienda nunquam est mors.*" But as the latter of these two states, namely, disease, has a tendency to shorten this limited existence, and as it is generally accompanied with more or less pain, we almos instinctively seek some means of restoring health, and thereby of preserving our lives, and alleviating our sufferings. These means, whatever may be their nature, have been denominated *remedies*, or therapeutic agents: and that branch of the science of medicine which treats of them has been called *acology*.

They include those which may be denominated *hygienic*, as aliment, bodily exercise, mental impressions, and other agents, which were formerly very absurdly termed the non-naturals; 2dly, *surgical* remedies, as blood-letting, acupuncture, &c. 3dly, certain *physical* agents, as heat and electricity; and 4thly, *pharmacological* agents, or *medicines* and which we may define to be those substances used in the treatment of diseases, which, when applied to the body, produce certain alterations or modifications in the functions, and which are not essentially alimentary.

The present course of lectures is devoted to the last class, and will contain an account of the natural history, the physical and chemical properties, and the physiological effects and uses of medicines. I should prefer announcing the course simply as one on *Pharmacology*; but, in conformity with the regulations of the examining boards, I am oblig d to employ the term *Materia Medica*, which is so far objectionable, that writers are not agreed on its limits, its uses, or its applications.

HISTORY.—It is customary to devote a portion of the introductory lecture to an historical outline. I may remark, however, that in the short space of a single lecture it is impossible to offer more than a very rudimentary sketch. I am of opinion also that it is much better, and far more interesting to study the history of a science when we have made ourselves acquainted with most of its details; so that, in fact, any historical discussion would be more appropriate at the conclusion than at the commencement of a course.

With this impression I have thought it best to put a few of the leading particulars relating to pharmacology into a tabular form, to which each of you can refer at your leisure.*

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* We shall give this Table hereafter.—*Editor India Journal of Medical and Physical Science.*

In justice I ought to add, that I have received considerable assistance in the arrangement of this table from Dr. Choulant's of the *Tafeln zur Gischichte der Medizin.* Those who desire to enter more fully into the subject may consult the posthumous work of Dr. Voigtels, entitled *Vollständiges System der Arzneimittellehre,* and also Dr. Bischoff's *Handbuch der Arzneimittellehre.* We are remarkably deficient in writings in our language on this subject ; and, indeed, the only book to which I can refer you, is the *Treatise of Materia Medica,* by Dr. Cullen, in which you will find a brief critical survey of the history of this branch of medical science. As pharmacology forms a part of the science of medicine, you may refer with advantage to writings on the history of medicine in general. Sprengel's work on this subject is the most elaborate and complete yet published. As an introduction, I would strongly recommend to your notice the admirable *Sketch of the History of Medicine,* by Dr. Bostock.

MEANS OF LEARNING THE EFFECTS OF MEDICINES.—Leaving, therefore, historical details, I proceed to examine the different means we may adopt to acquire a knowledge of the effects of medicines. I may premise, that the statements made by the ancient writers on this subject are not to be relied on, for in some cases they are totally devoid of truth, and in others much overcharged. This is particularly remarkable in the writings of Dioscorides and Galen.

The doctrines of *astral influences,* and of *signatures,* adopted by Paracelsus, are too absurd to require much notice. They form part of a supposed hidden science of divine mysteries, called *cabala.* On account of their resemblance to the testicles, the bulbs of some orchideous plants were supposed to act on the organs of generation ; while the fancied resemblance between the leaves of the *Pulmonaria* and the lungs of man was thought to indicate the use of this plant in pulmonary affections.

Discarding all absurd notions of this kind, we have *four* principal methods which in modern times have been resorted to, for the purpose of ascertaining the effects of medicines. These are founded—

1. On the sensible properties of medicines.
2. On their natural-historical properties.
3. On their chemical properties.
4. On the experience of their effects.

1. The *sensible properties,* such as colour, taste, and smell have long been used. We are in fact, led instinctively to this mode of investigation. The lower animals evidently derive considerable assistance in judging of the qualities of their food by the organs of their senses. We find them for the most part avoiding poisonous substances, selecting such as are wholesome and nutritious, and when sick, frequently resorting to such herbs as are best adapted to assist in restoring health.

There are two important objections to this mode of estimating the properties of medicines : the first is the difficulty, if not absolute impossibility, of defining sensations ; for supposing a new substance should be discovered, whose taste is remarkable and peculiar, how is it possible to convey by words to a second person a correct notion of the kind of impression made on the gustatory organ ? Secondly, the idiosyncrasies of sensation are so extraordinary, that two persons may disagree as to the character of the sensible property, for a sensation which may be grateful and pleasing to one, may be disagreeable and loathsome to another.

This mode of judging of the virtues of medicines has been confined principally to vegetable substances ; but even here cannot be relied on. Both *quinia* and *Strychnia* are devoid of smell, are white, and have an intensely bitter taste, and yet, notwithstanding this agreement in their sensible properties, differ widely in their effects, the one being a tonic, the other a powerful poison.

NATURAL HISTORICAL PROPERTIES ARE THOSE MADE USE OF IN NATURAL HISTORY TO DETERMINE THE AFFINITIES OF NATURAL BODIES.—They comprehend exterior form and structure. They have been resorted to for the purpose of determining the effects of certain substances. It has long been supposed that those plants which resemble each other in their external appearances are endowed with analogous medicinal properties. Cæsal Pinus was, I believe, the first who taught this doctrine. Baptista Porta says, *tali formæ tales vires conveniunt* ;" and Linnæus also remarks, " *Plantæ quæ* genere *conveniunt, etiam virtute conveniunt ; quæ* ordine *naturali continentur, etiam virtute propius accedunt* ; *quæque* classe *naturali congruunt, etiam viribus quodammodo congruunt.*" The first distinct work on the subject is that by Decandolle, entitled, *Essai sur les Propriétés Médicales des Plantes* the first edition of which appeared in 1804. In the year 1831 we had another interesting treatise on the same subject by Dierbach, entitled, *Abundlung über die Arzneikrafte des Planzen, vergleichen mit ihrer Structur und ihren chemischen Bestandtheilen.*

It is undeniable that in numerous instances there exists an analogy between the exterior forms and the medicinal properties of plants, so that we can sometimes predict the active principle and mode of operation, merely by knowing to what part of a natural arrangement a plant properly belongs. Cruciferæ (fig. 1), for example, present the greatest uni-

FIG. 1—RAMPHANUS SATIVUS.

formity in their botanical, chemical, and medicinal characters. They contain a volatile acrid principle, which renders them stimulant; and having been employed successfully in scurvy, are frequently termed anti scorbutics. The Labiatæ (fig. 2), which constitute, per-

FIG. 2—GLECHOMA HEDERACEA.

haps, the most natural family of the whole vegetable kingdom, contain a bitter resinous, or extractive matter, and an etherial, aromatic, or volatile oil; which two principles, mixed in different proportions, are found in all the species, to which they communicate tonic and carminative properties. Neither Cruciferæ nor Labiatæ contain a single unwholesome or even suspicious species. In Coniferæ (fig 3)

FIG. 3—PICCA VULGARIS.

we find the different species pervaded with an oleo-resinous juice, in consequence of which they possess stimulant properties.

We are obliged, however, to admit the existence of numerous exceptions to the beforementioned general rule. We can point out many families, the plants of which appear to possess the greatest botanical affinity for each other, but whose remedial properties are very different. Take Umbelliferæ (fig. 4) as an example. The root and leaves of the *Daucus carota* are wholesome and nutritive, but the analogous parts of *Conium maculatum* are highly poisonous. In some cases we even find plants of the same genus differing con-

FIG. 4.—FÆNICULUM VULGARE.

siderably from each other in a medicinal point of view. I need only mention as examples, in proof, *Cucumis melo* and *Cucumis colocyn.*

FIG. 5.—LOLIUM TEMULENTUM.

this. If we are to believe the statements of competent authorities, even Gramineæ, which Decandolle declares to be "la famille la plus naturelle," contains more than one exception to the general statement in question. For the most part the plants of this family are farinaceous and nutritive. "None," says Dr. Lindley, "are unwholesome in their natural state, with the single exception of *Lolium temulentum* (fig. 5), a common weed in many parts of England, the effects of which are undoubtedly deleterious, although perhaps much exaggerated." I may remark, however, that several other grasses have been asserted to be unwholesome. Loudon tells us that the seeds of *Bromus mollis* are said to bring on giddiness in the human species and quadrupeds, and to be fatal to poultry. The root of *Bremus purguns* is said to be used in Canada as an emetic, in doses of forty grains; but I confess the authority for this statement is somewhat doubtful. *Bromus catharticus*, a Chilian plant, has a thick root, which acts as a purgative. I am aware that these statements require further proof, for *Bromus secalinus* which was stated by some writers also to be poisonous, has been found by Cordier to be innocuous. We have, however, another case, on much better authority (that of Humboldt);—I allude now to a Peruvian grass, called by Kunth the *Festuca quadridentata* (fig. 6), and which is denominated in Sprengel's *Species Plantarum* the *Sessleria quitensis*. Humboldt tells us that the plant is very poisonous, and even fatal to animals.

FIG. 6.—FESTUCA QUADRIDENTATA.

Perhaps this may be the grass described by some under the name of *Carapoucha*, and which, by others, has been called *Carapullo*. Frezier, in his *Voyage to the South Sea and along the Coasts of Chili and Peru*, in the years 1712, 1713, 1714, says, in speaking of Lima, "There is an herb called *Carapullo*, which grows like a tuft of grass, and yields an ear, the decoction of which makes such as drink it delirious for some days. The Indians make use of it to discover the natural disposition of their children. All the time when it has its operation, they place by them the tools of all such trades as they may follow,—as by a maiden, a spindle, wool, scissars, cloth, kitchen furniture, &c.; and by a youth, accountrements for a horse, awls, hammers, &c., and that tool they take most fancy to in their delirium, is a certain indication of the trade they are fittest for,—as I was assured by a French surgeon, who was an eye-witness of this verity.

In the family *Solaneæ* we meet with other exceptions. Compare, for example, the fruits of *Capsicum annuum* and *Atropa Belladonnæ*. I might select many other instances (especially from the family *Leguminosæ*), to the same effect, but I shall content myself with the examples already adduced, as sufficiently warranting the assertion that, in the present state of science, botanical affinities cannot be confidently relied on by the medical practitioner for determining the effects of remedial agents. I cannot, therefore, agree with Dr. Lindley, in his assertion, that "a knowledge of one plant is a guide to the practitioner, which enables him to substitute some other plant *with confidence* which is naturally allied to it." In drawing this conclusion, I must caution you against running into an opposite extreme, and assuming that botanical affinities are of no use whatever to the medical practitioner. It will be my duty, when I speak of the vegetable materia medica, to shew you that as a *general rule* we may admit that plants of the same family agree in the *nature* of their medicinal operation, but that this general rule has many remarkable exceptions which diminish its utility in practice, though they do not absolutely destroy it. Doubtless in some cases the apparent exceptions arise from our imperfect knowledge of the affinities of plants.

No one has even attempted to infer the medicinal properties either of minerals or of animals from their natural-historical qualities. In the mineral kingdom, it has of late been shewn that two different substances may assume the same form; and that this depends not on a similarity in the *nature* but of the *number* of the molecules entering into the constitution of the substances. Such substances are said to be *isomorphous*. This fact proves that there is no necessary relation between the exterior forms and medicinal properties of minerals.

3. THE CHEMICAL PROPERTIES OF MEDICINES HAVE SOMETIMES BEEN RESORTED TO FOR THE PURPOSE OF DETERMINING THEIR MEDICINAL PROPERTIES.—That this mode of investigation is fallacious, is, I think, demonstrated from the following circumstances.—

(*a*). Substances whose chemical properties are exceedingly dissimilar, sometimes concur in the nature of their medicinal effects; and as examples of this, I may mention manna supertartrate of potash.

(*b*). Similarity of chemical properties is not always attended with a similarity of medicinal effect. *Baryta* and *Strontia*, for example, agree in so many chemical characters, that they were at first confounded; yet the salts of the first of these substances are energetic poisons, while those of the latter act feebly on the body.

(*c*). We cannot determine the operation of medicines by knowing either the nature or number of the ultimate particles, who could have anticipated that a compound of carbon, nitrogen, and hydrogen (all inert substances) could possess such an energetic operation as that of *hydrocianic acid*? *Carbonic* and *oxalic* acids are composed of the same kind of constituents the one as the other, but in somewhat different proportions; yet in how opposite a manner do these substances act when taken into the stomach! Compare the percentage composition of *Quinia*, *Strychnia*, and *Morphia*, and the slight differences in composition will not be found sufficient to explain their dissimilar operation.

	Quinia.	Morphia.	Strychnia.
Carbon ..	75·76	72·20	77·21
Hydrogen..	7·52	6 24	6 73
Nitrogen .	8·11	4·92	5·96
Oxygen ..	8·61	16 66	10·10
	100·00	100·02	100·00

(*d*). But it may be said we ought to take proximate and not ultimate principles as our guide. To this I reply, we cannot always determine what are *products* and what *educts* in our analysis of organic substances, and therefore we cannot tell precisely what are and what are not proximate principles. It was at one time supposed that the essential oil of bitter almonds was contained in the seeds from whence it is obtained. It is now well established that this oil, as well as the hydrocynnic acid it contains, are formed by the action of the water (employed in the process) on the almond cake. The same statement may be applied to the volatile oil of mustard-seed. If, then, this really happen in two cases, we may fairly suspect it in many others. Raspail regards the vegetable alkalies (such as quinia, cinchonia, morphia, &c.) as artificial products; but the balance of evidence is certainly against this notion.

(*e*). In some instances the active principle of a medicine is much more difficult to isolate than to discover the nature of the operation of the agent by other means. Ergot of rye is a good example of this. We have yet no satisfactory results from chemical investigations as to the nature and properties of the active principle of this substance.

(*f*). Lastly, it appears that two substances may be composed of the same constituents, and in the same ratio, and yet be endowed with different properties. Such substances are said to be *isomeric*.

4. EXPERIMENT ON MAN AND OTHER ANIMALS CONSTITUTES THE LAST AND MOST IMPORTANT METHOD OF ASCERTAINING THE VIRTUES OF MEDICINES.—For I think I have made it sufficiently evident that for this purpose we cannot implicitly confide in the sensible, natural, historical, or chemical properties. The action of medicines and poisons on man is for the most part similar in kind or quality, though different in degree, to that on other animals,—modified somewhat by the variation in the development of the several organs and functions. It has been asserted that some substances which are energetic poisons to man are innocuous to animals, and *vice versâ*. Let me caution you against implicitly believing vague assertions of this kind. Thus Voigtals states that horses may eat *Aconitum napellus* with impunity; but Viborg has shewn that they, like man, are poisoned by it, though the quantity requisite to produce death is large. It is a popular notion that arsinious acid is innocuous to horses. I am told that doses of scruple, or even half a drachm, are frequently exhibited to them, with no evidently hurtful consequences; nay, it is said with beneficial results. But notwithstanding these statements, we are quite certain that arsenious acid acts as a poison to the horse. In the year 1812, a man of the name of Dosson was indicted for poisoning several horses at Newmarket, by injecting an arsenical solution with a syringe into the watering troughs. Mr. Bowles, a veterinary surgeon, in his evidence, mentioned that he had poisoned horses by way of experiment, and had found, after death, extensive inflammation of the stomach and intestines. The prisoner was condemned, and executed.

Let me not be misunderstood. I do not deny the diversity of action of poisons and medicines on different animals, but I decidedly agree in opinion with Dr. Christison, that "If the subject is studied more deeply, the greater number of the alledged diversities will prove rather apparent than real."

One objection to experiment on animals as a means of learning the operation of medicines, is that we can obtain little or no information respecting the peculiar influence which certain substances exercise in particular diseases. The benefical effects of cinchona bark in agues could hardly have been discovered by comparative experiments, though the reverse has been asserted, as I shall hereafter notice.

A very important circumstance to bear in mind, in experiments on any animals, is that the effects of the same medicine vary with the part of the body to which it may be applied; for example, carbonic acid acts as a deadly poison when introduced into the lungs, whereas, taken into the stomach, it operates as an agreeable excitant. The volatile stimulants act more powerfully on the system when taken into the stomach, than when applied to the rectum.

IN ASCERTAINING THE OPERATION OF REMEDIAL AGENTS ON MAN, IT IS NECESSARY THAT WE EXAMINE THEIR INFLUENCE IN THE TWO MODES OF EXISTENCE —HEALTH AND DISEASE.—A reliance on either solely may lead to most erroneous inferences. The beneficial influence of arse-

nions acid in agues, or in lepra, could never have been anticipated by any experiments made with this substance in health; nor could we form a correct notion of the effects and proper doses of opium by employing it in tetanus, nor by using mercurials in fever.

Thus, then, it appears, that although we may draw some general inferences as to the operation of medicines by the examination of their sensible, natural, historical, or chemical properties, yet the information thus gained is not sufficiently precise to be of much practical utility; and we are therefore necessitated to resort to careful observation of the effects on man and other animals, in order to arrive at accurate conclusion.

CAUSE OF THE EFFECTS OF MEDICINES.—Before I proceed to examine the nature of the effects produced by the action of medicines on the body, I think it expedient to bring before you some theoretical, or perhaps I ought to call them hypothetical, details, connected with our subject. Linnæus adopts as a canon a remark of Hoffman, that "*Duo in medicina fulcra sunt, ratio et experientia; experientia præcedit, ratio sequitur; hinc rationes in rebus medicis experientia non conditæ, nihil valent.*" I feel that I may be charged with inverting the order of proceeding inculcated in this sentence, by commencing my examination of the operation of pharmacological agents with subjects purely speculative. I feel also that this charge is so much the more valid, inasmuch as the hypothetical details in question lead to no practical results. But I would remark, that while, in framing general laws, it is essential we should be previously well conversant with particulars, yet it is not a necessary consequence that the same order should be followed in teaching; nay, in some instances such a mode of proceeding would be attended with manifest inconvenience. Thus, in explaining the law of universal gravitation, few persons would think it requisite to follow Newton through all those elaborate calculations by which he arrived at this general principle.

But it may be said, if a subject lead to no practical result, why discuss it? To this I cannot do better than reply in the language of Dr. Thomas Brown, in his work on the Philosophy of the Human Mind:—"to know well what hypotheses truly are in themselves, and what it is which they contribute to the explanation of phenomena, is, I am convinced, the surest of all preservatives against that too ready assent which you might otherwise be disposed to give them."

I am sure all of you will feel interested in the inquiry into the cause of those changes in the vital actions of the system produced by the agency of medicines. To what primary qualities are we to refer the vesicating property of cantharides, for example? This kind of discussion necessarily resolves itself into two parts—first, an examination of the agent (the medicine) producing the changes; and secondly, an inquiry into the nature and properties of the being in which these changes may be or are produced.

1. ACTIVE FORCE OF MEDICINES.—Medicines give rise to certain alterations in the system, which we denominate their *effects*; and we say, therefore, these agents are endowed with an *active force*. But in what primary quality does this force reside? Some have directed their attention to the intimate structure, others to the chemical composition of medicines; thinking by these means to discover the cause of those changes produced on the living body by the agency of medicines. "I doubt not," says Locke "but if we could discover the figure, size, texture, and motion of the minute constituent parts of any two bodies, we should know, without trial, several of their operations one upon another, as we do now the properties of the square or a triangle. Did we know the mechanical affections of the particles of rhubarb, hemlock, opium, and a man, as a watchmaker does those of a watch, whereby it performs its operations, and of a file, which, by rubbing on them, will alter the figure of any of the wheels, we should be able to tell before-hand that rhubarb will purge, hemlock kill, and opium make a man sleep." These mechanical notions of Locke harmonized well with those of the iatromechanical or iatromathematical sect of the age in which he lived: a sect which ranked amongst its supporters Borelli (its founder), Bellini, and others, in Italy; Sauvages, in France; and Pitcairn, Keill, Mead, and Friend, in England. They explained the functions of the body, the productions of diseases, and the operation of medicines, on mechanical principles. The action of stimulants, for example, was supposed to depend on the pointed and needle-like form of their particles, and the operation of emollients on their globular form. I need hardly say, the existence of particles with the peculiar shapes assumed, is quite imaginary; and, indeed, if, for the sake of argument, we assume their existence, the action of medicines is, notwithstanding, quite inexplicable. We can, indeed, easily fancy that a ball of glass may be swallowed with impunity, and that the same substance, reduced to the form of a coarse powder, might cause considerable irritation by the mechanical action of the angular particles on the tender alimentary tube; but we cannot, on this hypothesis, explain why one medicine acts on one part of the body, and a second on another part. Quicksilver, tin-filings, and the hairs of the pod of the *Mucuna pruriens*, are still indeed employed, on account of their mechanical influence on the body. In the passage just quoted from Locke there are, in fact, two errors: first, the assumption that all the changes which take place in the external world are reducible to mechanical affections; and secondly, the presumption that we should be able to predict, without experience the changes which would take place, supposing, the assumption just mentioned were correct. A moment's reflection will satisfy us that, without experience, we should never have been able to predict occurrences far simpler than those just alluded to.

CHEMICAL PROPERTIES HAVE BEEN BY SOME SUPPOSED TO BE THOSE PRIMARY QUALITIES TO WHICH WE OUGHT TO REFER THE CHANGES PRODUCED BY MEDI-

CINES IN THE CONDITION OF THE LIVING BODY.—At one time, indeed, it was thought that all the operations of the animal machine were dependent on chemical action. Diseases, for example, were supposed to depend on the too acid or too alkaline condition of the fluids, and medicines were presumed to act by neutralizing the one or the other of these states. Sylvius may be considered as the founder of the iatrochemical sect, while our countryman Willis may be regarded as one of its leading advocates. Although this sect has long since disappeared, among the revolutions to which medicine has always been subject, yet a modified trace of it may still be observed in the opinions of those writers who assert that to chemical properties we ought to refer the activity of medicinal substances. Barbier—one of the most respectable of French pharmacological writers, though one, I think, whose theoretical views frequently lead him to regard facts through a distorting medium—considers the active force of a medicine as consisting in a tendency which the particles of the latter have to unite with the constituents of the organized tissues. So that when a medicine is applied to the living body, its component parts endeavour to combine with the organic matter. the vital properties resist, and a new action is set up, which constitutes what we call the medicinal *effects*.

I would remark on this hypothesis, that some of our remedial means are undoubtedly to be regarded as chemical agents—for example, the caustics, properly so called; and it will be admitted, I think, that the influence possessed by alkalies and acids, in modifying the condition of the urine, is referable, in part at least, to their chemical peculiarities. In some other cases also, circumstances lead us to suspect the same kind of influence; thus we find, for the most part, that if we increase the affinity of a medicine for other agents, we frequently increase its influence over the body, and *vice versâ*. Thus the oxides of the metals are more active than the regulus, while sulphate of potash is much less active than either of its constituents.

Let us not, however, be led away by loose analogies. It is quite impossible, I think, to admit that medicines generally are to be regarded as chemical agents. The few cases in which we have distinct evidence of a chemical operation are insufficient data on which to found a general law. Will any one be hardy enough to assert that the influence of hydrocyanic acid, or of opium, on the animal body, is of a chemical nature?

If, then, the greater number of our articles of the materia medica act, as far as we have evidence, neither by their mechanical nor by their chemical properties, to what other qualities are we to refer their operation? This question, gentlemen, is one which, in the present state of our knowledge, we are incompetent to answer. Considering the immense number of inorganic changes dependent on the agency of the electric fluid—taking into account also the wonderful relationship between electrical and vital phenomena, and the fondness of medical men for hypothesis—you will not be surprised to find that some have attempted an electrical theory of the operation of medicines. The instantaneous death caused by the application of concentrated hydrocyanic acid to certain parts of the body, is something like an electrical phenomenon.

2. VITAL PROPERTIES.—"Medicamenta non agunt in cadaver," is an axiom to which all persons will assent; and our inquiries immediately lead us to investigate the properties of living beings by which medicines are enabled to exercise their peculiar and remarkable influence. These properties or qualities are neither physical nor chemical: we denominate them vital or living: they are, therefore, essential to every organized or living part. Let me here caution you against confounding the terms *property* and *function*: the latter is the product of a peculiar organ or apparatus of organs, while the former is common to all living parts. Two vital properties have been usually described—the one called *sensibility*, the other *contractility*: by the first is meant the property or capability of receiving impressions, and by the latter, the capability of contracting or dilating—that is, of executing certain movements when the requisite impression has been made. A bean, for example, it is said, must possess both these qualities; for the act of growth is a proof that there exists internal movements; and these may be regarded as evidences of the reception of an impression of heat and moisture, without which germination cannot be effected.

But if the subject be a little more accurately examined, we shall find these supposed two vital properties are reducible to one. When a part feels an impression, it changes its mode of existence—that is to say, some kind of movement is effected in the part, which we can refer neither to physical nor chemical agencies. So that to assert a part possesses sensibility, is to express the capability of the part to act in a certain manner on the application of certain substances. Writers have in some instances described four, even five, vital properties. Bichat, for example, admits five; but three of these are evidently functions; I mean perceptive sensibility, and the two kinds of sensible contractility (voluntary and involuntary). They are evidently performed by a distinct apparatus.

Whether we admit one or five, you will naturally inquire what agent confers this one, or these five, properties on organized beings? To this question no answer can be rendered. By one class of writers the phenomena of life have been ascribed to organic structure, just as the sounds of a musical instrument are referred to the mechanical arrangement of its parts; by another class it has been assumed that there exists a living internal principle (some have compared it to the electrical fluid), distinct from the body, and which is the cause of the organization. To enter into any discussion on these hypotheses would be out of place in a course of lectures like the present. I may refer such as are desirous of pursuing the inquiry to Dr. Barclay's work on Life and Organization.

THE ULTIMATE CAUSE, THEN, OF THE OPERATION OF MEDICINES (AS WELL AS OF ALL OTHER VITAL PHENOMENA) IS INVOLVED IN IMPENETRABLE MYSTERY.—We know when a medicine is applied to the body it occasions some molecular movements to take place therein which are not sensible to us, and are only recognisable by their effects. But the cause and the nature of these motions are perfectly unknown. Let us turn this deficiency of knowledge to account; let it serve as a stimulus to our further inquiries. We ought, perhaps, as a celebrated German physiologist has observed, rather to be thankful that we have something yet to learn—something yet to obtain; for possession only makes us quiet, indolent, and proud. "If," says this writer, "the Deity held in his right hand all truth, and in his left only the ever-active impulse, the fond desire, and longing after truth, coupled with the condition of constantly erring, and should offer me the choice, I should humbly turn towards the left, and say, 'Father, give me this; pure truth is fit for thee alone!'" *Lond. Med. Gaz. October*, 1835.

SOME OF THE DISEASES OF INFANTS;

Delivered at the London Hospital,

By Francis H. Ramsbotham, M.D.

In treating the diseases of infancy and early childhood, the medical attendant labours under a most serious disadvantage; for since he cannot obtain from his little patients any account of their sensations or their sufferings, he is compelled to form his judgment by external signs. It becomes a matter of much importance, therefore, that he should clearly understand those marks which indicate a state of health, as well as those which declare the presence of desease. And I shall proceed to mention, in a cursory manner, the

MARKS OF HEALTH.—In health the infantile skin is plump, warm, smooth, soft and pliant. The belly posseses a soft and elastic rotundity; no pain is given when it is gently pressed by the hand, but the child generally laughs, as though some pleasurable sensation was communicated. The eye is sparkling and lively; and there is a calm repose, or a placid smile, always on the face. The breathing is regular, but the inspirations more frequent than in the adult; the sleep is quiet and undisturbed; the pulse equal, beating about 100 strokes in the minute. The mouth is moist and clean, the lips of a ruby redness, and the breath is sweet and balmy. The child notices those whom it knows, and is fond of being tossed in the arms. The bowels act two or three times in the day and night; the fæcal evacuations are of a bright light-yellow colour, and have not the stercoraceous odour they possess in after life. The urine is small in quantity, almost colourless, and nearly void of smell. In boys the scrotum is pursed up.

GENERAL INDICATIONS OF DISEASE.—In disease the reverse of this is observed. The skin is dry, hot, and harsh. The abdomen is either preternaturally full, or flat, and the surface wrinkled; pressure causes pain, and consequently a cry. The eye is dull and glassy, the countenance pallid, and the features shrivelled and expressive of suffering. The breathing is quick and irregular; the pulse more rapid than ordinary; the mouth is hot and dry; the tongue more or less coated; the lips parched, thin, cracked, and pale; the breath has an unpleasant smell; the nose is pinched and sharp, and the secretion from the nostril is scanty and offensive; the scrotum is flabby; the bowels are mostly relaxed, and the stools green and stringy. Every change of position produces a cry of distress, which is aggravated by tossing in the arms. Even when lying perfectly still, the child will occasionally utter a shriek or suppressed moan; or perhaps even a violent fit of crying will come on, without any apparent cause.

PARTICULAR SYMPTOMS.—There are some particular symptoms, an attention to which may lead us to a knowledge of the organ affected. Thus if the stools are green, frequent, and watery, there is no doubt that irritation exists in some part of the intestinal canal; and most probably improper food has been exhibited. This is specially to be suspected if the countenance is pallid, and the infant rapidly loses flesh. When the knees are drawn suddenly up towards the chest, and that action is attended with a shrill shriek, nurses attribute it, and I believe with justice, to griping pain in the bowels. A harsh dry cough, attended with wheezing in respiration, indicates that the trachea, or most likely the lungs, are affected with inflammatory action. General fever is always accompanied with a furred tongue, a want of secretion in the mouth, and parched lips. When enlargement of the mesenteric glands exists,—a disease of childhood rather than infancy,—the abdomen is tight and prominent. If there be obstruction in the lacteal vessels, without enlargement of the glands,—an affection of infancy more particularly,—the belly is usually flat and wrinkled. Under both these diseases the child wastes gradually. Dilated pupils and insensible retina, stuper, strabismus, an unnaturally open state of the anterior fontanelle, a prominent forehead, and disproportionately large head, shew that there is a tendency to hydrocephalus, even if water be not already exuded. Convulsions are indicative of the brain suffering much irritation; and the cause may either be present within the skull, or it may be situated at a distance more or less remote. When the gums are tumid, hot, and painful—when the infant carries eagerly to its mouth any hard substance it can get hold of, or when there is an increased quantity of saliva formed so that it dribbles from the lips, we may suppose that the teeth

are enlarging within their sockets—that they are making pressure on the upper stratum of bone which covers them, or after its absorption, on the gum itself, and that some of them are about to appear. A violent shriek denotes acute pain; low moaning, langnor or oppression. If a child, when in apparent health, is suddenly seized with a fit of crying, which neither the breast nor any other means will pacify, it is probable that some accidental cause of pain is present, perhaps that the point of a pin is irritating the skin. When called to an infant under such circumstances, I would advise you to require that it should be immediately stripped; and then should such be the case, it will cease, to scream, and the occasion of distress will be apparent. I may here mention, that the dress of children should be so contrived as to render the use of pins unnecessary. Many dangers, too obvious to be insisted on, will thus be prevented; and it is easy, any even more convenient, to substitute strings instead.

ACTION OF MEDICINES ON INFANTS.—Many of the medicinal agents we are accustomed to employ possess a peculiar effect under infancy. The action of some of them is attended with consequences more than comparatively violent; while others are borne by children better than by adults, making an allowance, of course, for the different strength of the dose.—The loss of a small quantity of blood affects infants sensibly; and we should therefore be proportionably cautious. The large quantity of subcuticular fat, and the depth and smallness of the veins, preclude the possibility of bleeding from the arm; nor, in infancy, is this operation necessary, even under the acutest inflammations, for leeches will draw sufficient to make a strong impression on the system. A leach will abstract more blood from an infant than from an adult, in general, because of the thinness of the insensible cuticle, and the vascularity of the cutis itself. Many children have bled to death, and I have myself seen some very nearly dying, from the incautious application of leeches; and this would teach us to be careful in the number we advise, to watch their effect on the countenance, pulse, and respiration, and to be at hand to render assistance should the punctures bleed inordinately. If a choice is allowed, I always prefer fixing them on some part of the body where there is bone close below the surface, that sufficient counter-pressure may be afforded to the finger, provided it becomes necessary to restrain the flow. If I wished to relieve the head, for instance, I would choose the temples and forehead rather than the space behind the ears or the neck, for I have seen the bleeding difficult of control in these situations. Should it be desirable to take blood freely from an older child, the jugular vein may be opened with advantage, when it would be impossible to obtain the required quantity from the cephalic or basilic. Cupping infants in any part of the body is, in, my opinion, out of the question; though Merrimen prefers this mode of drawing blood, even within the month.

BLISTERS, FOR THE REASON I HAVE JUST GIVEN, EXERT A POWERFUL INFLUENCE ON THE SKIN OF THE INFANT; THEY ARE ATTENDED WITH MORE DISTRESS, AND ARE BY NO MEANS SO SAFE A REMEDY AS IN THE ADULT.—Sloughing not unfrequently results from the plaister being kept applied too long. I have seen more than one child sink under the effects of the blister, after having recovered from the disease for which it was advised. In proportion, however, to its power may this means prove useful, if administered with care. My own practice is, never to allow a blister to remain upon the skin until vesication is produced, but to remove it on the first appearance of diffused redness; because the probability is that vesicles will still form, even though it be taken off; and should this effect not be produced, it is easy to apply it for a short time again. As a principle, perhaps two hours will be sufficient, if the child be under six months, and three or four if under a year old. In affections of the head, I consider blistering the forehead, or behind the ears, preferable to the nape of the neck because as the child lies on its bed, or in the nurse's arms, the constant motion of the head will irritate the inflamed surface, and prevent our keeping any kind of dressing in contact with it. The remarks I have just made are also applicable in the main to other rubefacients.

THE WARM BATH IS A MOST USEFUL AUXILIARY IN THE TREATMENT OF INFANTILE DISEASES.—Under all inflammatory attacks, and almost every variety of fever, immersion in tepid water is of essential service. It not only determines to the surface, and promotes perspiration, but it tends to keep the skin clean, which is a matter of no small moment. The temperature may be about 97º. The bath may be repeated two or three times in the twenty-four hours, and the child may remain in it five or seven minutes on each occasion. Its effects are certainly greater then on the grown subject; and this we should expect from the vascularity of the skin, and the facility with which the cutaneous circulation can be excited. For these reasons I have an objection, under most diseases, to sponging or sluicing the body with cold water.

THE MILDER PURGATIVES CHILDREN BEAR WELL; THOSE WHICH WE GENERALLY HAVE RECOURSE TO ARE CALOMEL, CASTOR OIL, SCAMMONY, RHUBARB, JALAP, MAGNESIA, AND MANNA.—It is not easy to give the neutral salts to infants, nor are they desirable; and we should not, except under very extraordinary cases indeed, administer aloes, colocynth, gamboge, elaterium, or croton oil, Mercury, both as a purgative and alterative, is a most valuable medicine for infants. As a cathartic, a grain or two of calomel may be given with a due quantity of rhubarb of scammony. To correct the secretions, less

than a grain, with the addition of a little sugar, may be administered at stated periods; and if the bowels are disordered by it, a few grains of prepared chalk may be mixed with it, or two or three grains of *hydrargyrum cum creta* may be substituted, or a proportionate dose of the *exidum cinereum*.

INFANTS ARE SELDOM SALIVATED BY MERCURY.—And in most inflammatory attacks, as well as in derangements of the biliary system and intestinal canal, in some form or other, it will be found perhaps the most beneficial medicine that can be exhibited by the mouth.

Infants bear emetics also well. The action of vomiting, indeed, in infancy, is attended with very little effort, and apparently with no distress; for the stomach often rejects its contents after sucking, from overdistention or some other cause, and no pain or inconvenience results. Both ipecacuanha and antimony are useful for this purpose; but of the two, ipecacuanha is by far the most safe, as it does not occasion the same depression that arises from the action of antimony.

Ipecacuanha is equally, if not more serviceable, in nauseating doses, to determine to the skin; and in fevers and inflammatory affections,—particularly of the chest,—will be found most beneficial. Of all the expectorants, ipecacuanha is that on which I principally rely.

Saline medicines are also useful. Small doses of the liq. ammon. acetas, or of a solution of citrate of potass, may be given in any fit vehicle. Diuretics are seldom required.

CARMINATIVES ARE MUCH IN VOGUE AMONG THE COMMON PEOPLE; AND I FEAR THEIR EXHIBITION IS FREQUENTLY PRODUCTIVE OF NO LITTLE INJURY, AT LEAST IF THEY CONTAIN SPIRIT.—The lowest class in this town (who look upon gin as the panacea for all complaints both mental and corporeal, and have recourse to it so liberally in their own persons), under the supposition, I presume, that it will work an analogous charm on the bodies of their infants when distressed with pain or peevishness, are in the habit of administering it, slightly adulterated, with no sparing hand. The fatal effects of such a custom it does not require much ingenuity to discover. Dill water is a favourite nursery specific for gripings in the bowels, as evidenced by screams and watery stools. To this I see no objection; and I have found two or three grains of the aromatic confection of our Pharmacopœia, suspended in a tea spoonful of distilled water, with one drop of aromatic spirit of ammonia, and a little sugar added to it, quiet an irritable state of bowels, when purgatives seemed to have aggravated the pre-existing complaint. If stimuli are required, ammonia will in general be found better than any preparation which owes its powers to the spirit it contains.

I need scarcely say that the tonic bitters are almost inadmissible in early infancy. Small doses of quinine, indeed, may be occasionally useful; but those medicines will prove the best tonics, which, by correcting the secretions and rectifying the deranged state of the alimentary canal, may be able to bring about a more perfect assimilation of the food. In more advanced, childhood, bark in many of its forms, and steel, are highly advantageous; but with the exception just mentioned, neither of these medicines are suited to an infant.

BUT OF ALL REMEDIES ADMINISTERED INTERNALLY, THOSE WHICH RANK AS NARCOTIC POISONS SEEM TO HAVE THE GREATEST PROPORTIONATE EFFECT UPON THE INFANT.—Nor can we be surprised at this, when we reflect on the large size of the brain and nerves in general, and the highly susceptible and irritable condition of the nervous system. Digitalis is extremely powerful in its action, and sometimes its effects are suddenly developed. In using it, then, it should be prescribed in the smallest doses, and watched narrowly. The powder will be found the most suitable preparation; and an eighth or tenth of a grain is as much as I dare administer at a time. It is effective in most inflammations, particularly of the chest, and may be advantageously combined with some preparation of mercury, with ipecacuanha, and a mild purgative if necessary.

Infants, however, bear the action of the direct sedatives worse than any other kind of medicines. They produce a violent effect, not unfrequently occasioning stupor and convulsions. Opium, indeed, is almost inadmissible by the mouth; and if irritability of the system, or a lax state of bowels, prompt its administration, it is much more safely given in enema. Three or four minims of laudanum for a child under two months old, mixed in one or two ounces of starch mucilage, I should look upon as a sufficient dose to be injected into the bowel.

I HAVE KNOWN SOME INSTANCES OF YOUNG CHILDREN BEING ALMOST POISONED BY THE INJUDICIOUS USE OF OPIUM, AND HAVE HEARD OF OTHERS WHERE A FATAL EVENT ACTUALLY OCCURRED FROM SUCH A CAUSE.—Underwood tells us that he was called to an infant two days old, who had by mistake swallowed four drops of laudanum; it was perfectly comatose, and remained sleeping above thirty-six hours, but ultimately recovered.

Merriman relates that he once saw a child thrown into a state of excessive stupor by taking one dose of an opiate mixture, in which the quantity actually swallowed could scarcely amount to a single drop of laudanum; and that he knew of an instance in which a woman poisoned her child by a dose of Godfrey's cordial, that she purchased at a neighbouring chemist's shop. Not suspecting, however, that the medicine was the cause of the child's death, she persuaded a person living in the same house, whose child some time after became disordered in the bowels, to give it a part. A dose from the same bottle was administered; and this child, like the former,

was almost immediately attacked with convulsions, and it also soon died.

CLARKE HAS MENTIONED A CASE IN HIS COMMENTARIES WHICH HE SAW, WHERE FORTY DROPS OF DALBY'S CARMINATIVE DESTROYED AN INFANT.—For such reasons I am much averse to the soothing syrups of the nursery, and interdict their use whenever I espy a suspicious-looking bottle, or suspect that there is an inclination to have recourse to them. No woman should be allowed to remain in the charge of children who is once detected in administering any thing of this kind surreptitiously. Upon the whole, then, narcotic medicines should be considered as almost excluded from the infantile pharmacopœia,—only to be used rarely, and with the greatest caution.

There is some little art in compounding remedies for infants. If the preparation prescribed can be given in a powder, that is perhaps the most convenient mode; but if in a liquid, fresh almond mixture or mucilage will be a pleasant vehicle for some; dill water, or simple distilled water, for others. I need not say that the more tasteless the dose can be made, the better. The restorative powers. which nature possesses are sometimes wonderfully displayed in infancy; and this should teach us not to despair, however unpromising the case may appear; aspecially in derangements of the intestinal canal, and in every variety of fever.

As it is not my intention to enter into the diseases of the older child, which are treated of by all writers and lecturers on the practice of physic, but to confine my observations to those affections which particularly harass the young infant, and as it is impossible to adopt any systematic classification of these complaints, I shall follow the simple arrangement of dividing them into the local and general diseases, and speak first of those in which the local symptoms predominate. We shall proceed, then, to the consideration of

PURULENT OPHTHALMIA.—This affection mostly arises within a month after birth; more often indeed, within the first week. It consists in an inflammation of the conjunctiva, which commences in that portion lining the lids, and generally towards the inner canthus. It is seldom that one of the eyes is singly affected. As a consequence of inflammatory action, the secretion from the membrane become more copious than natural, and altered in appearance and properties. It assumes the character of pus, and may with propriety be designated puriform fluid. The lids themselves soon become tumid; their margins are of a bright scarlet hue; and that their whole structure is increased in vascularity, is evident from the dingy redness of the surface covered by the common cuticle. Even early in the complaint the lids become glued together by the evaporation of the more fluid particles while the child sleeps, and when opened by the fingers, a gush of tears succeeds. When the secretion becomes more copious, it it retained behind the closed lids, presses against the ball, and must thus be productive both of pain, and danger to the organ. In the more aggravated forms, the upper lid is everted whenever the infant cries, in consequence of the orbicularis muscle forcibly pressing the turgid conjunctiva inwards. If the disease be allowed to continue unchecked, that portion of the membrane covering the anterior face of the ball becomes cloudy, which indicates approaching slough; layer after layer of the cornea is destroyed, and when the dead portion has separated, the aqueous humor escapes, the iris protrudes, the aperture enlarges by a continuance of the same morbid action, the crystalline lends and vitreous humor issue out at the orifice, and the organ is totally destroyed I am persuaded that suppuration seldom or never occurs in the globe itself, but that when the eye is lost, it is by the sloughing of the cornea permitting the escape of the fluids, and by the disorganization which consequently ensues. It is not always, however, that duskiness of the pupil forebodes sloughing about to occur; for that very opacity is not unfrequently the sign of healthy action having been set up for the purpose of restoring the part: and we may be sometimes agreeably surprised in finding, on the decline of the disease, the organ much less injured than we anticipated. If the cloudy appearance is on the increase while the symptoms of acute inflammation continue, we may augur badly of the event; if, on the contrary, it only shews itself as the active state subsides, we may look upon it as a happy omen,

CAUSE.—The cause of purulent ophthalmia is not very clear. It was once suposed the result of morbid matter absorbed by the membrane of the lids during the passage of the head through the vagina, and it was therefore considered as a pretty sure proof that the woman laboured under gonorrhœa. The similarity which the fluid secreted by the conjunctiva in this affection bears to that formed by the vagina in gonorrhœa, seemed to favour such an opinion; for it will pass through all the stages, from the white or cream tint to straw colour, and even green, as does the fluid poured out from an inflamed urethra. But experience has perfectly disproved such an idea; and I am also equally certain that it is not dependent on the mother being the subject of leucorrhœa. By nurses it is generally attributed to cold caught soon after birth; the common expression, indeed, is, that the child has a "cold in its eyes;" and if the medical attendant under labour has been negligent in covering the head as speedly as possible after its protrusion, the disease will most probably be laid to his want of care. Long continued exposure to a cold atmosphere might perhaps produce inflammation of the conjunctiva, as it would of the Schneiderian membrane; but I question whether that would be of the specific kind we are now considering; and I am myself inclined to the opinion that it most frequently originates in exposing the eye to a strong glare of light and heat.

TREATMENT.—As this affection partakes of the character of acute inflammation, antiphlogistic measure must be steadily pur-

sued. If it be but to a slight extent, perhaps warm fomentations, frequently applied, or an astringent lotion, such as I shall presently advise, aided by a brisk purgative, will be sufficient to remove it altogether; but if the redness of the vessels below the skin of the palpebræ appears through the cuticle —If much pus is being secreted, and the lids are everted—we should not content ourselves without abstracting blood from a part as near the inflamed vessels as possible. With this view a leech may be applied conveniently close to the inner canthus of one or both eyes, and the bleeding may be allowed to continue until some marked effect be produced on the system, as evidenced principally by the countenance. Some practitioners recommend the abstraction of blood by scarifying the conjunctiva itself; and the everted state of the membrane offers a ready opportunity for the performance of the operation. But I perfectly coincide with Saundors in the opinion that during the active stage such an injury done to the vessels would be likely to aggravate the disease, and that it is only when the acuteness of the affection has subsided, and the vessels remain full and turgid, and preternaturally enlarged from a loss of their tone, that dividing them can be of any service. At that time, however, by relieving their distention, an opportunity is afforded them to contract, and thus the undue vascularity of the whole membrane may be lessened. The adhesive inflammation excited by the wound under these circumstances would manifestly be advantageous rather than otherwise, by giving a filip to the organs in a state of indolence and inaction, through which means a healthy condition is most likely to be restored. Scarification, however, cannot with propriety be adopted in any case, if the cornea be in a state of ulceration or slough. Professor Burns speaks in very laudatory terms of a blister to the back of the head, which he recommends should be kept open by savine ointment. If we bear in mind the caution I have inculcated respecting the action of blisters on the infant, we may make use of the application in most cases; but I think we should derive more benefit from placing a small one behind each ear, as advised by Underwood, or upon the temples.

In the early stage of the disease, free purging is highly useful; and I think I have seen advantage from small doses of some mild preparation of mercury, given at intervals. While the vessels continue in a state of acute inflammation, astringent washes to the eye itself are likely to prove injurious, and the frequent use of warm water, as a fomentation, seems much preferable. In the second stage, however, weak solutions of both alum and zinc may be had recourse to with much advantage. I think it not safe generally to use a stronger solution than four grains of alum, or half a grain of zinc, to the ounce of distilled water. The best mode of applying it is to place a dossil of lint, saturated with the lotion, over each eye when the infant sleeps, and to change them as frequently as they become warm. At the same time a small quantity of a diluted ointment of the nitrate of silver or of zinc may be carried between the lids, by means of a camel's-hair pencil, two or three times a day, as well to prevent their being glued together, as to accelerate the healing process. During the whole progress of the disease, the palpebræ should be separated by an assistant frequently in the course of the day, that the chance of the secreted fluid being pent up between them and the ball may be obviated; for it is evident that an accumulation could not occur without distress and danger. In those aggravated cases where the lids have remained everted for a considerable time, and where, although raturned to their proper position, they cannot be retained in it excision of a considerable portion of the conjunctiva may be required: but under proper treatment, in the early stage, this is rarely indeed necessary.

Should be cornea continue in a sloughy condition, or if the ulcer appears ragged and unhealthy, the internal use of quinine, and injecting, by means of a very small syringe, a weak astringent lotion between the lids, will offer the best chance of establishing the healing process.

I have been thus minute, perhaps tediously so, in describing this affection, because of its frequency in this climate, and because, as the obstetrical attendant is expected to take charge of both the mother and her infant during the puerperal month, it more often comes under his notice than that of the general physician or surgeon. And I think it more profitable to enter somewhat into detail regarding a few diseases which are not commonly treated of, than to give a hasty and meagre sketch of a number, whose history and management can be learned from most works on the practice of medicine.

TUMID STATE OF THE BREASTS. —Sometimes, a day or two after birth, the infantile breasts are observed tumid, hard, and painful, turgid with a serous fluid that may be squeezed through the nipple; and from my own experience, I should say this happens more frequently in the case of boys than of girls. Both organs sometimes acquire a very considerable size; and the general form resembles that of a woman with a very full neck. That this enlargement is the result of inflammation, is very evident; and that suppuration may supervene, is possible; but I never myself knew pus to be formed as a consequence, and that such an event is exceedingly rare, I have the authority of some of the first practitioners to declare. Nurses suppose that this fluid is milk, and that it requires to be evacuated by pressure and friction, and much injury has been sustained in consequence of the rude treatment adopted for the purpose of squeezing out the secretion. The affection is of no moment, and if nature be unmolested, the swelling will subside in the course of a week or a fortnight, and not the least inconvenience will remain. If it be worth while to make any application, a soft poultice may be used, or the part may be gently rubbed with a little warm oil.

ULCERATED NAVEL.

About the fifth or sixth day after birth, the funis, which has become dead and withered, drops off from its attachment to the infant's body, and the ulcer left in consequence speedily, heals. Sometimes, however, from a cause not well understood, the healing process is not established; a fungous growth shoots up from the centre of the aperture, which may acquire the size of a small pea; it is smooth, shining, of a florid redness, and has somewhat the appearance of a highly exuberant granulation, except that it is not coated with pus. This irregularity is of very little importance: if unattended to, some time will elapse before the navel is quite skinned over, and a little trouble may be occasioned; but by sprinkling a little alum over it, dusting it with a little oxide of zinc, or applying an astringent ointment, or a piece of dry lint, together with a light compress, the inconvenience soon disappears. If these means fail, it may be touched two or three times with lunar caustic or sulphate of copper. When very prominent, it has been surrounded by a ligature at its base. Nurses are in the habit of taking such a case under their own proper charge, and applying a split raisin on the surface. the sugar it contains, I suspect, acts as an escharotic.

At other times, though very rarely, there is a tendency in the skin around the umbilicus to slough: a diffused redness is observed, perhaps the size of a dollar, or larger, extending from the navel as a centre over the abdominal muscles. It evidently partakes of the erysipelatous character, and the edges of the umbilicus become gangrenous; the sloughing spreads and will sometimes involve a considerable portion of the skin. This is a more trouble some and much more serious affection than that I have spoken of last. It is attended with fever, and cannot be said to be void of danger: it will therefore require general as well as local treatment. Febrile action may be kept under by moderate purgatives, and a soothing poultice forms the best topical application.

Of all the irregularities, however, connected with the umbilicus,

HÆMORRHAGE FORM THE NAVEL

is by far the most dangerous; but it is also very uncommon. I am not, of course, now speaking of bleeding from the vessels of the cut cord, in consequence of their being insecurely tied, but of hæmorrhage from the umbilicus itself. We have already learned, that soon after the circulation through the funis ceases, or is artificially stopped,—on the perfect establishment of breathing life, —that portion of the umbilical vein which included within the body of the child becomes impervious, and dwindles by degrees into a ligamentous cord; and that the same changes occur in the umbilical arteries. If this process of contraction and consolidation goes on naturally and correctly, it is impossible for any blood to ooze forth; and whenever bleeding does occur, we may attribute it to a patulous condition of one or other of the vessels. There is little doubt that either of the arteries or the vein may be the source from which the fluid exudes; but I am inclined to the opinion that the bleeding is almost invariably from the vein. It may be of consequence, in regulating our practice, to form a correct diagnosis on this head? and the colour of the blood will in general sufficiently distinguish arterial from venous hæmorrhage. It is believed that the former of these varieties brings less danger with it than the latter, in consequence of the greater contractility of the arterial coats; and this opinion I think founded on reason. Sometimes the hæmorrhage comes on before the complete separation of the cord; at others not until it has entirely parted from the body. All the few cases that I have seen haveproved fatal; no means that were attempted availed in the least degree in staying the flow of blood, and the infants sank slowly under the continued drain. Mr. Radford, of Manchester, in an ingenious essay, published in the 38th volume of the Edinburgh Medical and Surgical Journal, says that several cases of this nature have come under his observation, and that they were all fatal except one. Nor can we be surprised at this event, when we reflect ont the large diameter of the vein and its situation. I presume the cause depends on an unhealthy condition of the vein itself. Pressure, caustics, and ligatures, I have resorted to, without success; and the only means I have left untried is the cutting down upon the vessel, and securing it at a short distance from its open mouth —an operation which I think would be attended with no small difficulty and peril, but which is recommended by Mr. Radford in the paper just referred to. This experienced surgeon, however thinks such a measure can only be requisite when the hæmorrhage is venous; for he believes if either of the arteries be the bleeding vessel, that simple compression will restrain the flow. As I consider this affection almost universally fatal, I should have no hesitation in sanctioning such an attempt to preserve the infant's life, although severe and hazardous.—*Med. Gaz. Sept.* 1835.

THREE CASES OF
STONE IN THE BLADDER
TREATED BY
LITHOTRIPSY.

To the Editor of the Lancet.

Sir,—May I request you to insert in your valuable Journal three more cases of calculus treated by lithotripsy, as additional poofs that this operation is efficacious in its application, and that its cures are complete. I have the honour to be, Sir, your most obediently,

Heurteloup, M. D.

18, Holles-street, Cavendish-square,
July 30, 1835.

Case 1.—*Operation performed publicly at the Royal Military Hospital, Chelsea.—Patient aged* 28.—*Good Constitution.—Stricture of the Urethra.—Two Galculi of*

considerable size.—Fragment stopping behind the Strictured Portion of the Uethra.—Removal of these Fragments by appropriate means,—Recovery of the Patient since nearly two years.

William Dawson, a soldier, ætat. 28, experienced symptoms of stone in the bladder shortly after his enlistment, but the sensations at first were so slight that for three years he paid little or no attention to them, and continued to discharge his duties. Soon after this, however, his sufferings gradually increased; his general health was affected, and he became so weak that he wished to be discharged, considering himself unfit for service. His pain was excessive during long marches, and on such occasions he used to void bloody urine, at short intervals, and with great pain. He ought for medical advice at last, but attributed the symptoms to a stricture of the urethra which existed at that time, not supposing that there was calculus. In introducing instruments for the purpose of treating the stricture, a foreign body was felt in the bladder. The patient was made acquainted with the cause of his sufferings, but refused to undergo the operation of lithotomy which was proposed to him at Chatham.

Shortly after this he was declared unfit for service, and received his dismissal; he was admitted by particular favour into the Military Hospital, Chelsea, under the care of Dr. Somerville, who considered that although he had refused to be cut for the stone, he might not object to lithotripsy, and proposed this operation to him, to which he consented unhesitatingly. Dr. Somerville kindly recommended this patient to my care, and he came to my house on the 11th of December, 1833, to be sounded.

The urethra was moderately capacious, but there was a strictured portion at about six inches from the meatus urinarius, which, however allowed the introduction of a catheter, No. 11 ; the bladder was rather constractile, not very capacious, and contained two oval-shaped calculi of considerable size, easily moved with the catheter.

At the request of Dr. Somerville, who wished that the operation might be performed at the Hospital, the first application of the lithotriptic instruments took place on the 23rd of December ; the two calculi were taken and broken in about two minutes. A considerable quantity of powder and fragments was voided after this operation. Three subsequent ones performed with the *percuteur*, at intervals of a few days, sufficed to bring away the stone that remained in the bladder.

On the 7th of January, that is, a fortnight after the first application, Dawson was carefully examined by Dr. Somerville, Mr. Lawrance, surgeon to the Royal Military Asylum, and Mr. Heartshorn, conjointly with myself, and no remnant of calculus being detected, the patient was pronounced cured.

Dr. Somerville, however, in order that the recovery should be confirmed beyond a doubt, wished that the patient might remain under his eye for some time ; he stayed for a couple of months, during which time he did not experience an unpleasant symptom, and was then dismissed.

Remarks—With the exception of the stricture there is no particular feature in this case. But I have again to allude to the difficulties which are occasioned by strictures, even when they are not very considerable. These difficulties arise chiefly from the facility with which fragments of calculus remain behind the contracted portion of the urethra. This circumstance happened in Dawson's case. After each operation which produced a great number of fragments, I found behind the stricture a string of fragments which it was necessary to remove, and some of which required to be broken in the urethra, being either too large, or of an unfavourable shape, to be extracted entire. This was accomplished by means of particular instruments adapted to that purpose, but which it would be too long to describe here. Generally speaking, I consider it preferable to have a patient with a moderately capacious urethra, than one with a very large urethra, which is not equally so in its whole length. It is true, in the first case we do not see such large fragments voided as in the second ; but these fragments pass through the urethra more readily and do not obstruct it. This patient was operated on in presence of the Commandant of the Hospital, Dr. Somerville, Mr. Lawrance, Mr. Babbage, Mr. Bramah, Professor Sedgwick of Cambridge, Dr. Watson, Mr. Biggs, and many other gentlemen of the profession.

It is nearly two years since the recovery of Dawson, and he has not experienced the slightest symptom to lead him to fear a return of his complaint.

Case. 2.--*Patient aged 60.—Weak Constitution—Calculus of Mixed Phosphates of about an inch in diameter.—Considerable Disease of the Bladder.—Deep Sacculus in the Bas found, in which several Fragments were lodged.—Pulverization of these Fragments in the Cavity,—Recovery of the Patient more than a year and a half ago.*

Mr. Watson, ætat. 60, residing near Boston, Lincolnshire, of a weak constitution, was thrown from a horse at the age of 15, by which two of his ribs were broken, and two inguinal hernia were produced ; he, however, enjoyed pretty good health after this till abought eight years before I saw him. He then experienced pain in the loins, but not violent ; this continued at different intervals, and more or less intensely, for nearly three years, when he experienced symptoms of stone in the bladder ; these symptoms at first were so trifling, that they hardly attracted the attention of the patient, but they gradually increased in severity, and induced him to have medical advice. At the recommendation of several medical gentlemen to whom he addressed himself, he had recourse to many different medicines, which afforded him however, no permanent benefit, and finding that the symptoms became almost every day aggravated he addressed himself in 1833 to Mr. Snaith, of Boston, who examined the bladder, detected a calculus, and was good enough to recommend the patient to me ; he was the more ready

to follow the advice from having seen just before in a Stamford paper an account of several operations which I had performed at Nottingham. He arrived in London the 4th of January, 1834; he was in a constant state of suffering, which had worn him out, and reduced him to a state of great debility, and he was very frequently voiding thick and fetid urine.

The catheter indicated a contracted bladder; a small and sensitive urethra; a soft calculus of about an inch in diameter, of an irregular shape, and situated near the neck of the bladder. The irritable and contracted state of the bladder, which only allowed a small quantity of water to be injected, rendered the stone almost immoveable. Notwithstanding this unfavourable condition of the urinary organs, I considered *lithotripsy* applicable, and performed the first operation on the 3rd of February. In four applications of the instruments this calculus was pulverized, and the patient returned to Boston in the month of March.

I requested him to write to me occasionally stating how he felt himself; and shortly after, his return I had reason to believe by the particulars which he gave me, that one or two fragments of calculus remained in his bladder; he had occasion to pass his water rather more frequently than he should do; and sometimes had a sensation of heat along the urethra. I advised him, therefore, to come to town; this he immediately complied with. With the recto-curvilinear catheter nothing could be detected; the bladder, however, was larger, more dilatable, more regular, much less sensitive, and altogether in a much better state than before the operation. This quiescent state of the bladder induced me to continue the exploration. Catheters of various shapes were introduced, and at last I discovered with a straight one, behind the neck of the bladder, and quite to the left, a depression or sacculus into which the instrument penetrated nearly an inch. In this depression several small fragments were distinctly felt. I succeeded in pulverizing them by employing an instrument nearly straight, having only a curve of a few lines. These pieces being all voided, the most careful examinations with straight and curved instruments showed that none remained; and the patient returned home, and has been ever since perfectly well.

Remarks—This case affords a proof that the operation of lithotripsy may be considered advantageously applicable in cases of calculus existing at the same time with a diseased bladder. Mr. Watson was, in this respect, in a very unfavourable state, previous to the operation. Many, I am aware, consider that *lithotripsy* should not be attempted where there is disease of the bladder, but very frequently it is the best means of removing the bad symptoms. This case also proves that notwithstanding an anomalous conformation of the bladder, every fragment can be removed; to accomplish this, it is only necessary to employ suitable manipulations and proper instruments. If, therefore, this can be accomplished, in cases of irregularly formed bladders, *à fortiori*, it may be done where we have to do with one that is regular in its conformation. The opinion, therefore, which would bring this point in question, is incorrect.

Case 3.—*Patient aged 17.—Impaired Constitution.—Large Lithic-acid Calculus. Extensive Disease of the Bladder.—Lithotripsy considered inapplicable, but afterwards performed, Lithotomy being looked upon as too dangerous and the Patient being unwilling to submit to it,—Four applications of the Percuteur.—Recovery since a year and a half.*

George Draper, son of a farmer, residing at Gotham, near Nottingham, seventeen years of age, was troubled with symptoms of stone in the bladder at the age of six or seven; he has suffered more or less; the least exercise brought on violent pain, and a discharge of bloody urine. At different periods Mr. Wright and Mr. Attenburrow, surgeons to the *Nottingham Hospital*, were consulted; they prescribed various treatments, which were followed by temporary relief, but still the disease continued to gain ground. Mr. Wright proposed to sound the patient several years ago; but he refused to submit. Things continued in the same state until I had occasion to go to Nottingham to perform several operations of *lithotripsy*. Mr. Wright mentioned and explained this operation to Draper, who, hoping that if a stone was discovered he might be cured by another operation than that of cutting, consented to be sounded. I accompanied Mr. Wright to Gotham; the patient was in a deplorable state, weak and reduced by the constant pain under which he laboured, and which at times was so acute as to call from him loud and continued shrieks, and voiding frequently and in small quantities fetid and turbid water. The urethra was capacious, the bladder contracted, and the catheter was prevented from being passed into it, by a large and rough calculus, against which the instrument struck, as if it had been against something immovable, such as a wall.

Taking into consideration all the symptoms, the reduced condition and excessive sensibility of the patient; the inflamed state of the bladder, and, above all, the size of the stone, I thought it right to express the doubts I entertained as to the success of lithotripsy, and refused to undertake the case. Mr. Wright, however, who looked upon lithotomy as being equally dangerous, and to which, moreover, the patient would not submit, urged that something should be done to remove such acute sufferings, which must unavoidably soon terminate in death, and was of opinion that notwithstanding the disadvantages of the case, I should employ all the means I had in my power to give relief. I yielded to an opinion so just, and the patient was conveyed to London on the 17th February, 1834.

The unremitting and skilful attentions of Mr. Wright had ameliorated the state of the patient: the bladder was rather more dilatable: and on examination with the recto-curvilinear catheter, proved the existence of a heavy, rough lithic-acid calculus, about as large as a small hen's egg, and rendered immoveable by its size.

The first operation was performed on the 5th of March, with a *percuteur* suitably *armed* (having the teeth properly constructed and arranged); a calculus was taken which the instrument showed to be an inch and a half in its smallest diameter and was broken by a percussion appropriately applied. Two of the largest fragments were afterwards seized and broken in the same way.

Immediately after this operation, the patient perceived that the most serious symptoms under which he was labouring when he came to town had almost entirely disappeared; although there still remained in the bladder several considerable fragments. He was so well, that in three other applications of the instruments, performed at a few days interval, the whole of this voluminous calculus was removed, and he returned home perfectly well on the 31st of March. Mr. Wright, who has had the goodness to observe the patient, told me only a few weeks back when I had the pleasure of seeing him, that young Draper had been free from every unpleasant sensation, and was in perfect health.

Remarks.—This case is very important, inasmuch as it proves, in the first place, that very large calculi can in a very short time be removed by lithotripsy. Four operations of about three minutes duration sufficed to accomplish this. It might perhaps have required as much time to extract it by lithotomy, which operation sometimes last longer than twelve minutes. In the second place, it shows that large calculi may be removed by lithotripsy at an early age; the patient was but seventeen. In the third place it proves, as do the preceding case and many others, that voluminous stones can be brought away, notwithstanding considerable disease of the bladder. And in the last place, it indicates that an erroneous opinion is held by those who supposes that a calculus, when broken into fragments, produces an increase of pain and irritation; this circumstance is exceedingly rare; in the present case, after the first application of the instrument, the patient felt immediate and great relief; and if to this we add that this effect has come under my observation in nearly two hundred cases, we may look upon this clinical point as completely cleared up and confirmed.—*Lancet.*

A FURTHER INQUIRY CONCERNING CONSTITUTIONAL IRRITATION,

AND

THE PATHOLOGY OF THE NERVOUS SYSTEM.

By Benjamin Travers, F. R. S.

Senior Surgeon to St. Thomas's Hospital, &c.

&c.

Octavo, pp. 444. Longman's, London, 1835.

Our readers may remember that, in the year 1827, Mr. Travers published the first part of a work, entitled, "An Inquiry concerning that Disturbed State of the Vital Functions usually denominated Constitutional Irritation." The interval between the appearance of that and of the present Part has been considerable, but Mr. Travers does not deem it necessary to vindicate himself from the imputation of having pursued an idle speculation, because he has no novelties to submit to the notice of the public. His object may be gleaned from the following brief apology.

"I request of my reader to bear in mind that it professes to be only an 'Inquiry,' seeking and supplying illustration from facts, and reasonings thereupon, not aspiring to guide his views so much as to unfold my own, and thus to indicate the direction in which, as it appears to me, his also may be usefully applied. For the rest, I bespeak his patience and his candour;—the first, that he may duly appreciate the extent and importance of the subject; the second, that he may judge of the manner in which it is treated with forbearance, and lenity to its admitted defects.—'Res enim ardua vetustis novitatem dare, novis autoritatem, obscuris lucem, dubiis fidem; omnibus Naturam, et Naturæ sua omnia."—*Preface*, viii."

The work before us consists of two divisions. The first is devoted to the consideration of Irritation of various kinds,—the second to the Nervous System and its Pathology.

The first contains six chapters. The two first are occupied with the subject of "reflected irritation." In the third we are informed of the connexion between direct and reflected irritation. In the fourth we are made acquainted with the local changes of structure not essentially inflammatory, and of local inflammations supervening on or connected with constitutional diseases. In the fifth, we are presented with constitutional inflammations as examples of reflected irritation. And, finally, the sixth is a supplement to the preceding five.

The first chapter opens with a recapitulation of the principal objects of the former volume. His principal aim was to exhibit the occurrence, the phenomena, and the results of that state termed by surgeons Constitutional Irritation.

"I drew," he observes, "a distinction between irritation and inflammation in a local sense, and irritation and fever in a general sense; shewing at the same time, that though the combination in both senses was frequent, it was far from invariable; and that, upon the whole, the most formidable, because the least controllable forms of constitutional irritation existed in the absence of inflammation and fever.

The nervous system I shewed to be the source of these morbid actions, and pointed out the direct agency of some causes of excitement, and the indirect agency of others, and thence established the distinction between direct and reflected irritation. It was my object, in the former work, to delineate the direct and in the present I shall consider the reflected irritation. It is essential to premise, that I confine my view to such diseases as have soon-

er or later external and local demonstration, and are therefore strictly in the province of surgery; although such demonstration may be trivial in appearance, or in point of time separated by a considerable interval from the constitutional disturbance, whether anterior or subsequent to it. To recapitulate.—

"Constitutional irritation I consider to be of two kinds, direct and reflected, by which arbitrary distinction I mean to imply, that the first is wholly and immediately derived from the part, commences and is identified with the local mischief, and the constitution has no share in its production. The second, on the contrary, originates in a peculiar morbid state of the constitution, to which the injury or inflammation has given birth, or it may be, previouly existing. The first in truly symptomatic; never originating spontaneously, and being immediately induced by the local irritation, is capable of being essentially mitigated or arrested by its removal. The second is occasionally idiopathic, and being as often the cause as the effect of the local action, is less influenced by local treatment. In the first the local changes are depending on local causes, in the second they depend on constitutional causes. Cases are of no uncommon occurence, in which after an interval the reflected supervenes upon the direct irritation, or the direct is superadded to the reflected, already established, which may therefore be regarded as examples of mixed irritation, the part and the constitution acting and re-acting alternately upon each other."

Mr. Travers occupies the remainder of this chapter with a sketch of the influence of constitution and habits upon local disease.

The conclusions of our author may be briefly summed up. If called upon to mention the most powerful predisponents to disease, he would say, of the time of life, youth or age; of temperaments, the scrofulous; of habits of life, those of poverty in the aggregate; of moral causes, anxiety and the depressing passions; of external and adventitious circumstances, the abuse of liquor, the operation of cold, and the action of mercury. To these conclusions we see no objection, indeed we suppose they would be generally admitted, and are generally believed.

The subjects of the second chapter are—Illustrations of Reflected Irritation—Pre-existing Organic Disease—Metastasis—Diseased Actions set up in other parts by Injuries and Inflammations—and Cases illustrative of all.

1. PRE-EXISTING ORGANIC DISEASE.—The gist of Mr. Travers' remarks upon this head may be said to be, that organic changes silently creep on, and that few attain lengthened age without them, whilst few also die from disease or accident after the middle period of life, in whom dissection does not disclose some palpable evidences of organic change not previously known, or at best only vaguely surmised to exist.

2. METASTASIS.—Mr. Travers seems to think that the principle of metastasis is, in effect, the same as that of sympathy. This may be thought an attempt to illustrate the obscurum by the obscurius, and we conceive that an example or two of the fact is, in the present condition of our knowledge, worth, perhaps, more than volumes of discussion.

"Of several instances in which I have witnessed the fatal operation of this principle, I should mention as among the most marked, serious apoplexy from retention of urine and the sudden reduction of swollen testes; palsy of the retina from the sudden retrocesision of a skin rash, from a tumor obstructing the bowels, the irritation of worms, engorgement of the liver, and suppressed catamenia; and erythema, erysipelas, and even diffused gangrenous inflammation from the healing of wounds upon distant parts. But the case most strongly impressed upon my mind happened many years ago, in which I encouraged one of my dressers to a trial of skill in accomplishing the healing of a very extensive and ancient ulcer of the leg, within a given time. Almost immediately upon its complete cicatrization, a diffused swelling arose in the pectoral region of the same side, the parietes took on extensive gangrenous inflammation, and the patient died in less than a week."—20.

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3. DISEASED ACTIONS SET UP IN OTHER PARTS, BY INJURED AND OPERATIONS.—"In the works of various authors and collectors of cases, will be found examples of the postmortem discovery of a morbid state of other and distant parts of the body, bearing every character of recent formation, and of the existence of which, prior to the injury in one case, and the external disease in another, there was neither sign nor ground for conjecture. These have sometimes been of a directly fatal character, as acute inflammation and effusion into the cavities. Sometimes, and more frequently, they have been of a chronic kind, opposing insurmountable obstacles to recovery by change of structure in vital organs, as tubercles in the lungs, liver, &c.; in other cases, they have operated by their diffusedness rather than their nature to oppress the powers of life, and thus aggravate the malady, as extensive inflammatory actions upon the skin and cellular membrane. Lastly, internal organs have assumed a character of disease in a more advanced stage, or a more important position, similar to the first or external malady, whether scrofulous, or belonging to the morbid poisons, as the scirrhous and medullary cancer, lues, &c."—23.

OF THE CONNECTION BETWEEN DIRECT AND REFLECTED IRRITATION—THEIR RECIPROCITY AND MIXED OPERATION—THE SYSTEM RE-ACTING ON THE PART, AND THE PART ON THE SYSTEM.—The object of our author, in this chapter, is beset with no inconsiderable difficulties. Irritation, or, at least, the explanation of it, is not the most comprehensible of actions, and the mode of connexion between its forms, direct or reflected, may, perhaps, be more readily imagined than described. An author of talent conversant with logical and metaphysical distinctions, frequently labours under the misfortune of addressing himself to readers, to whom

metaphysics are equally unintelligible and uninteresting. Utilitarians in reasoning, as in fact, the immediate cui bono is their ready reply to an ingenious tissue of philosophic speculations.

"The phenomena of reflected, *i. e.* reciprocal irritation, require to be more carefully studied than they have hitherto been by those who consider the profession of surgery a branch of science, and not a purely mechanical art.

"When the injury, from its nature or its seat, is one of extraordinary severity, the constitution is effected to great febrile excitement or depression, as acute inflammatory or typhoid fever, but still presenting the type of fever. In extreme cases, however, as those of complicated injury, although neither involving vital organs nor the loss of blood, it loses that character altogether, and the system is permanently sunk beyond recovery, or is stunned and prostrated for a time, and recovers only to display new and anomalous modes of excitement. These, it will be remembered, are the two forms of direct irritation which I have formerly described—'prostration without reaction,' and 'prostration with excessive reaction,' as taking the place of fever in cases of grave local mischief, whether occasioned by violence or inflammation."—43.

The ordinary case of reflected irritation, says our able author, is that in which the system operates upon the part, or upon any remote part prejudicially, or in a manner destructive to its own safety. This is shewn in the supervention of erysipelas after injuries—in the insidious inflammation of remote parts after the same—and in "the preternatural actions of the nervous system, as trismus and tetanus." We feel it impossible to substitute any expressions of our own for the passage we are now about to quote. It is intended as an explanation of the supervention of direct upon reflected irritation.

"It will be obvious to reflection, that the direct irritation ensuing from injury or inflammation, tends if continued, to the production of the state of constitution above described; as when the injury, which acts as an exciting cause, though soothed, is unredressed, and the system is, by the aid of time and circumstance, restored to seeming tranquillity, though still oppressed by a sense of inequality to sustain the demands made upon it for support and repair. In this critical position it continually happens, that the constitution of the robust, which is unused to confinement, and of the weak, which is scarce adequate to maintain health, betrays a condition of morbid irritability which impedes the process of recovery, and lapses, sooner or later, into a wasting hectic, generally producing pulmonary or other visceral deposit. In those chronic changes of structure which arise independent of any assignable local cause, some of which we denominate constitutional diseases, as, for example, scrofula, scirrhus, &c., a similar passive morbid state of the system is gradually established, which, if aroused by any suddenly altered condition of the part, frequently assumes a degree of activity destructive to life. The irritation of a change, abstractedly beneficial, as for example, the removal of a tumor, or of a limb which we have vainly attempted to save, or the discharge of a large abscess, annihilates the benefit which, in different circumstances, it would have afforded. Had not the powers of the constitution been already overstretched, they would have rallied on the occasion, as they have often done from a state of almost hopeless depression; but the shock incidental to the change of condition oversets it, so exquisitely delicate has the balance become by gradual adjustment between the weight imposed and the sustaining force. If fatal results are exceptions to general experience, it is because experience has impressed caution; but they occur; and it has appeared to me that a more distinct solution of the question why they occur, than has yet been given, may render them still less frequent.

This, then, is the case of the direct superadded to the reflected irritation; so that the reciprocity of the two is evinced in almost all protracted cases of surgery, and indeed their protraction is generally depending upon it. In a case which goes healthily forward without interruption, the constitution and the part preserve their adjustment so equally, that irritation can scarcely be said to exist; and this is the case when, after the first alarm and resistance of the nervous system is past the circulation quiets down and lends all aid to the work of reparation. But when permanently unfavourable circumstances attend an injury or a disease, an ill disposed habit or a cachexia is present, a previous organic change exists, or an interference takes place with the operations of nature, whether accidental, unavoidable, or ill-judged,—each of which causes comprehends a variety of conditions in detail,—the part and the consultation are ternate irritants, one of the other, and eventually co-operate for destruction."

OF LOCAL CHANGES OF STRUCTURE NOT ESSENTIALLY INFLAMMATORY.—OF LOCAL INFLAMMATION SUPERVENING ON CONSTITUTIONAL DISEASES.—OF LOCAL INFLAMMATION GENERATING CONSTITUTIONAL DISEASE.—CACHEXIA.—OF SCROPHULA, CANCER, SYPHILIS, CACHECTIC ULCERATION AND GANGRENE.—Such is the multifarious heading of the fourth chapter. To explain, or even to illustrate, the nature of these various and complex affections, is a task of no inconsiderable difficulty.

The first eight pages are occupied with the object of shewning that some changes are not essentially inflammatory—hydrocele, for instance, or fatty tumor, or medullary tubercle, &c. So few, however, do look on these formations as the simple consequence of inflammation, that we need not play at nine-pins with the question. Mr. Travers, indeed, seems inclined to carry the view of the non-inflammatory origin of certain structural alterations, rather farther than many pathologists

and surgeons. He observes, for instance that—

"The thickening of the tunica vaginalis in chronic hydrocele, and the old irreducible hernial sac, is a process similar to the impaction and condensation of the cellular membrane in the formation of cysts; and the effusion of adhesive matter may doubtless take place under the stimulus of a slow but continued pressure in one instance, and the absorption of original structure in another, by a process quite distinct and often anticipatory of inflammation. What determines that pressure should in one case thicken and another attenuate, in one case promote the addition of a new, and in another the removal of an original texture, is the mode and degree of the local irritation applied, affecting either the nutrient or the absorbent action; this is the proximate cause; the remote cause is a final principle established in subservience to the economy, which may not improperly be termed a law."—71.

Our author treats in the next place of inflammation supervening on constitutional diseases.

"The symptoms which attend upon these chronic changes are a sensation of general malaise, langour, and lassitude, wandering pains, unequal distribution of blood and heat uncertain rest and appetite, gradual decline of muscular tone and power, and perhaps of flesh, variable secretions, both as to quantity and kind, and an uncertain state of the temper and spirits. These are the signs of irritation from chronic change, and are indicative of the state of the system which has given origin to the morbid action, as much as of its effects. I call it, therefore, reflected irritation."—76.

Mr. Travers continues—

"The irritation of the constitution is barely perceptible in the early stage of the specific diseases. In scrofula, in all the varieties of cancer, in the numberless tumors and ulcers which have no obvious and direct local cause of origin, the constitution which has given birth to them being predisposed to their formation, discovers little sympathy with them when formed. The seeming exceptions to this observation, are those set up by violence, or whose situation interferes with the structure and function of vital organs, as tuberclesin the lungs, brain, stomach, or liver, for example.

Then the irritation becomes direct, and sets up fever which rapidly proves destructive; for reflected irritation, if left to run its course, is slow in comparison with the direct, which, though originating in some purely local cause, acts, as we have seen, with such intensity as to excite the instant sympathy of the brain and stomach, and thence of the universal nervous system.

In the case of specific disease, the local change marking the accession of inflammation, is attended by an alarming aggravation of constitutional symptoms, by reason of the reflected irritation previously existing, of which the external appearance was perhaps the first clear indication."—77.

Mr. Travers is of opinion, that though a morbid poison, produced in an individual by inoculation, will sooner or later shew itself in an external form, a man may, notwithstanding, die of scrofulous or venereal irritation and atrophy, without an external or local sign demonstrating its interference with the vital economy.

Mr. Travers makes a remark, in the general justice of which we agree.

"I consider," he says, "inflammation specific, in being subordinate to the specific irritation, and when this is the case, it is of a chronic character, and circumscribed as in the scrofulous white swelling, in the scirrhous tumor of the mamma, in a genuine syphilitic ulcer of the glans penis. If the action is rapid and vehement, and threatening extensive disorganization, we may be sure it is the work of some other agent in combination, as to take the last example, a state of high inflammation from neglect, or venereal abuse during the existence of sores; confinement of matter, as in perfect phymoses; intemperance, or the previous employment of mercury in frequent irregular courses during unrestrained exposure to weather. The same remark applies to venereal ulcers of the throat and external skin, to eruptions, nodes venereal ophthalmia —take away the susceptibility to inflammation from exposure and other incidental causes during the excitement of the system by mercury, and the severe local consequences referred to the action of syphilis would be no more seen."—81.

It would be well if practitioners were generally impressed with the truth of this observation. It ought to be engraved on the mind of every professional man that much inflammatory action during the progress of syphilis, is not immediately dependent on the syphilitic poison, but on accidental circumstances—on cold, upon excess, on the evil influence or injudicious exhibition of mercury to the opinions of some recent authors, but practically we are convinced of its accuracy and truth.

We have seen constitutional disease giving rise to, and mixed up with, local inflammation —we are now to regard local inflammation generating constitutional disease. Yet examples of this are so frequently, so constantly presented to us, that few words are necessary to point it out. Perphaps as Mr. Travers observes, the state of system occasionally induced by the venereal poison, is as marked and as melancholy an instance of the fact as any that could be readily selected.

The "cachexiæ" induced by scrofula cancer, syphilis, and mercury, are reviewed in rapid order by our author. Yet we see nothing in his observations that demands particular notice upon our part, excepting, perhaps, his classification, which we give.

"SIMPLE CACHEXIÆ.

Suppuration.
Ulcertain.
Gangrene

SPECIFIC CACHEXIÆ.

Scrofula.
Scirrhous Cancer.
Lupus. Sweep's Cancer.
Medullary Cancer.
Hæmatoid. Melanoid.

ANIMAL POISONS.

Syphiloid.
Varioloid.
&c. &c.

MINERAL POISONS.

Mercurial.
Arsenical.
&c. &c."—90.

OF CONSTITUTIONAL INFLAMMATIONS, AS EXAMPLES OF REFLECTED IRRITATION. ERYSIPELAS. CASES. GANGRENOUS INFLAMMATION. CARBUNCLE AND MALIGNANT BUBO. CASES.—We have not yet left the subject of reflected irritation. Whether successive chapters have contributed to make its mysteries clearer to our readers, we know not; but the present contains more observations on its nature, and further illustrations in the instances of erysipelas, gangrene, carbuncle, and bubo. We believe that most surgeons will agree with Mr. Travers, when he tells us that—

" Diseases of the constitution taking a local form are not always, as I have shewn, of an inflammatory character; but when this local form exhibits inflammation in either of its processes, it is subjected to the influence of the constitution, and must be regarded and designated as a constitutional inflammation. The strumous ophthalmia and strumous sore throat are familiar examples. Where a diathesis prevails, an inflammation due to an obvious occasional cause, and having all the character of a simple inflammation in the outset, becomes in course of time adopted by the constitution, and modified by the prevailing diathesis; thus catarrhal inflammation terminates in phthisis, and an excoriated lip in cancerous ulcer.

When we view such an inflammation springing up spontaneously, as an action for which we can assign no external or visible cause, we see in its simplest and most genuine character, the constitution developed in the part, which, for want of a better term, I have called 'reflected irritation,' for neither the terms sympathetic nor secondary, would have been sufficient or correct, either as descriptions or as definitions. In either of the cases above proposed the irritation is reflected, for a slight deviation from the ordinary action of the part becomes the irritant in one case, as inflammation aroused by accident is in the other. What it is, that in the absence of external appearances, disposes particular textures to particular modes of inflammation, and disposes the sex, the age, nay, the individual, to the seemingly spontaneous morbid action, is another and distinct question:—but as changes of the part often precede those of the constitution, so those of the constitution often precede those of the part, and the natural susceptibility of one to the other becomes morbid; and thus even the ordinary action of a part may be the irritant of a diseased system, as a plethoric habit aggravates some local diseases. But to justify the term 'reflected,' it is not necessary either to suppose or to deny the pre-existence of any local affection; it comprehends the local and the constitutional origin equally, requiring only a local action sooner or later, which presents the prevailing morbid type of the constitution. This may be temporary or occasional, as in many cases of erysipelas—or permanent, as in carcinoma—it may be hereditary, as in some cases of inveterate scrofula, or bred in the individual, as in others—a result of contagion, or epidemy, as in hospital gangrene, or the reverse, as in carbuncle; a prison derived, as in lues; or a poison generated in the system, as in cancer; or an affection wholly distinct from prison, either natural or morbid, as in tetanus." 119.

Mr. Travers observes that the parts disposed to erysipelas are, first, the skin—secondly, the skin and subcutaneous cellular membrane—thirdly, the mucous and serous membranes.

1. ERYSIPELAS OF THE SKIN.—This is the slightest form of the disease; slightest, that is, in point of structural implication, for sometimes it proves fatal, and frequently it is severe. The description of it is so familar, that we need not insert it here. As Mr. Travers states, the erratic form of the disease, or its appearance in different regions of the body, or in distinct patches, with sound interspaces, at the same time or in quick succession, is more serious than where the erysipelatous redness is continuous. It shews a debilitated state of constitution, and, generally speaking, tonics are more necessary for this than the other description.

2. *Erysipelas of the Skin and Cellular Membrane.*

" When the superficial appearance described above is attended by swelling from a serous effusion into the cellular membrane, it is distinguished by the term 'œdematous.' If, as happens from a variety of causes, this serous effusion is unaccompanied, nay, unpreceded by the inflammation of the surface, it is not erysipelas but œdema. The œdematous is the most common form of the disease, and is always important, but seldom dangerous, except when situated about the head, when it is always more or less so. The œdema is a mode of relief to the overcharged vessels, which either averts or stands in the place of suppuration, or facilitates it, according to the state of constitutional power. Thus it is a very frequent termination of the disease." 123.

" When from the violence of the action, or the loss of tone of the absorbent system, the effusion becomes excessive, the disease terminates by a process of suppuration, and one large diffused collection, or several smaller distinct collections of pus are formed in the cellular texture, which is spoiled and sloughy. The matter is of a thin consistence, secreted by the same vessels which have loaded the cells with serum under a continuance of the inflammatory action, an action incapable of the higher stage of adhesive deposition. The cellular texture dies, and with the effused fluids undergoes that state of decomposition to which the expressive term 'pourriture' is applied by the French. The entanglement of the matter by the shreds of dead cellular substance, renders it impossible to discharge such collections but by free incision, and the best practice is to incise them as soon as the suppurative process is manifested, by which their further extension is prevented and much relief obtained. As such collections are not indicated by what is called 'pointing,' the presence of pus is not always ascertained so early as is desirable, and it is sometimes not until matter is formed in great quantity,

so as to fluctuate, that the surgeon is aware of its existence. This is a sort of delusion conveyed by the œdema under cover of which it forms.

The third termination of erysipelas is in gangrene—in which the skin dies along with the cellular membrane. This is rare, and happens abruptlv and from purely constitutional causes; unless a result of excessive distention, as in enormous facial abscess or of disorganization from violence, as in bad compound fracture. It is remarkable however to what an extent the destruction of the subjacent membrane, following the inflammation and excessive distension of the skin, will proceed, without affecting the vitality of the latter. Upon the eyelid and prepuce, where its texture is peculiarly delicate, we oftenest see it die.

Gangrenous erysipelas is distinguished from gangrenous inflammation by the prior existence of the erysipelas, and its confinement to the integument, though diffused over a large extent of surface, as the entire or the half of a limb, for example. In gangrenous inflammation there is no such diffused swelling and redness as belongs to erysipelas, prior to the appearance of the phlyctenæ or sphacelated spots. When actual death has taken place in erysipelas of the trunk or limbs, the signs of distinction become faint and would vanish altogether, but that the extent and circumstances of origin of gangrenous erysipelas seldom permit of the maintenance of life long enough to observe the phenomena peculiar to it.

In the terminations of erysipelas above mentioned the adhesive process is passed over altogether, and this absence of the boundary which, like the hoard erected round a building under repair, precludes interruption to and from its neighbourhood, constitutes the strongest local character of erysipelas. Suppuration, when not so circumvallated, is an action without an object and as purely destructive as gangrene. For not only is the action without local check or confine, but it is also destitute of the material of repair, organizable lymph, the basis of granulation. I say organizable lymph, that which is essential to phlegmon and abscess, because the term phlegmonoid has been adopted to designate a variety of erysipelas, in which the effusion is of firmer consistence than the œdematous and suppurative, yielding less to pressure, and conveying no sensation of fluidity to the fingers of the examiner. The distinction is founded in truth, but the term must not be understood to convey that the matter effused is an organisable medium. In this sense we might as justly call carbuncle, phlegmonoid. A concrete albuminous matter, such as is seen after puncturing and emptying the vesicle of a powerful blister, is seen upon incision of this phlegmonoid erysipelas when the serum has drained away from the cells, which are distended by it to their utmost capacity—and with this, puriform matter, and in an advanced stage, sloughs are here and there intermixed." 126.

The broad line of demarcation between the two affections is this:—that, in erysipelas, the inflammation begins in the skin, and affects the cellular tissue, consecutively—while in inflammation of the cellular tissue, *that* is first involved, and afterwards the skin.

In the simplest form of cutaneous erysipelas, that form which bears a very close resemblance to the exanthemata, the cellular tissue is scarcely, or even not at all involved. The disease runs its course in a week or ten days, and terminates in desquamation of the cuticle. Yet even in this, some serous infiltration usually takes place in the subcutaneous cellular membrane, especially in that which contains no adeps, and after the subsidence of the erysipelas, small abscesses are often found in the situations we have mentioned.

He adverts to erysipelas of the reflected mucous membrane.

"The conjunctiva, membrane of the fauces, of the air tube, of the rectum, and I believe, of the pulmonary and intestinal surfaces throughout, are occasionally the seat of this species of inflammation. It is rare by comparison with that of the external tegument, and perhaps chiefly occurring in the immediate vicinity of the skin, as where that membrane is reflected or modified by its relation to the function. The subjacent cellular tissue is involved in the inflammation, giving it the œdematous character, and it is probable that this tissue, pervading and connecting all the textures of the body, is in all liable to erysipelas, though not hitherto presenting itself to observation in such a form as to be generally so recognized.

The excessive chemosis of the muco-serous membrane of the eye, which ushers in the acute suppurative ophthalmia, indicates, not less than its disposition to gangrene upon the cornea, that it belongs to this species of inflammation. In the pharynx and membrane of the glottis it arises from cold and ceases operating constitutionally, in which it sometimes turns gangrenous, as in scarlatina maligna; and from wounds of the throat, or caustic substances applied or swallowed, the obstruction to respiration from excessive swelling is sometimes such as to demand tracheotomy to prevent suffocation. It is also sympathetic, more or less, with acute œdematous erysipelas of the head and face, in which disease the patient is generally from this cause deprived of the use of his natural senses of smell, taste, and hearing. The contagious property belonging to erysipelas is strikingly manifested in some of these cases. I have known it fatal to three of the same family within the space of ten days. In the rectum ligatures of internal piles, and of bleeding vessels, necessarily including a portion of the sub-mucous membrane, give origin to this inflammation; and I have seen it in several cases produced by the division of a fistula, in which erysipelas of the nates, and gangrene of the integuments surrounding the anus terminating the erysipelas, terminated also the patient's life. The peritoneum is exposed to this species of inflammation after child birth, and I believe that a large proportion of the puerperal cases are cases of erysipelas. The diffusion of the inflammation over the cavity, the non-production of adhesions, and the presence of flakes of albuminous matter floating in a curd-like serum, the sudden prostration of power, and

the strongly marked property of communication, whether by contact or atmosphere, lead me to consider it as of this description. The absence of œdema is explained by the strictness of the sub-serous cellular texture. It is probable that the connecting cellular tissue in the interior of all structures, whether muscular, membranous, nervous, vascular, or bony, is subject to be so affected in those painful diseases, which, under the denomination of chronic rheumatism and neuralgia, so frequently defy all our ingenuity of explanation and of treatment.

And yet more certainly we may conclude this to the case in those deep seated abscesses, necroses, and tumors hard and soft, which are accompanied with great bulk and consequent extension of all yielding textures, so as to threaten life as well as limb." 128.

(To be continued.)

MALIGNANT CHOLERA.

To the Editor of the Lancet.

Sir,—In the summer of 1832, when the cholera was devastating the Canadas, a tattered old man appeared in Montreal, whom the Catholic populace were induced speedily to canonize for his successful treatment of this disease, which was at that time almost as mysterious to the population as the stranger himself. To this modern saint vast numbers of the infected were brought, who were restored to health from the most violent attacks of the inflammatory stage, as well as the worst possible collapse, even after the duly authorized medical practitioner had exhausted and relaxed his efforts. The remedy consisted of a due admixture of maple-sugar, charcoal, and lard, which *melange* was given to his patients in large quantities after every ejection. The results were astonishing, and could be indicated in the speedy alteration of the countenances of the sufferers, and the early subsidence of vomiting and purging.

We must not cry down this remedy as empirical, inasmuch as its merits appear to be effectually borne out by the employment of these agents, homely and cheap as they are.

It is obviously improper to permit a patient to continue retching when his stomach is in a state of violent inflammation, as in cholera, without a fluid or unctuous substance being interposed between the sides of the villous coat, to prevent attrition, and afford matter for expulsion upon which the antiperistaltic action of the stomach shall expend itself rather than upon its own substance. Unfortunate in the extreme was it for the patients of those who permitted not the use of any liquid but that spirituous poison which added fuel to the flame. Thus lard was combined in this remedy, not because it was the best, but the most common lubricating agent.

Mortification and gangrene are the consecutives of inflammation; hence it was thought necessary, in a disease which so quickly displayed these phenomena, to apply a substance which should afford the best and most common antiseptic capable of being administered in bulk without the influence of any other qualities. This was supplied by charcoal.

Sugar, in common with lard and charcoal, possesses powerful antiseptic qualities, combined with a stimulating property; and in the addition of this constituent the necessity of a stimulus was acknowledged by the old man, in common with the medical profession at large, who have almost universally admitted that principle; but unfortunately the mass of the profession (at least in North America) could not admit the axiom without taking leave of their judgment, and administering spirituous liquors to excess, and, in consequence, many hundreds, to my knowledge, died in the same condition as they had lived,—namely, drunk. I must remark, in passing, that I consider the brandy and laudanum treatment, the unnatural combination of a narcotic and an inflammatory stimulant, to have been a stain on the intelligence of the profession, —a practice conceived in gross ignorance of the disease, if not of the agents themselves. The main feature of cholera is inflammation of the stomach, for instance. I have seen no case in which congestion and inflammation of that organ have not existed. What, then, are the most proper applications to be made to it? for the stomach is in nearly the same circumstances as those of a limb suffering from phlegmonous inflammation. Administer substances which shall serve the offices of fomentations, poultices, and ointments. This may be decried as quackery, but we are bound in this disease to try every expedient which bears the remotest feature of a rational principle, or is founded upon any recognizable maxim.

I am bound also to state that *at the instant of attack*, a liberal bleeding, *hot fomentations*, and the administration of ipecacuanha and antimony, have been successful with my own patients. I have, ever since I lost my first case (that of a companion and friend, by the abuse of laudanum and brandy,) invariably used the hot fomentation, and no circumstance has occurred to stagger my faith in its efficacy.

I am, Sir, your obedient servant,

W. H. Thomas.

Bristol, Sept. 16, 1835.—*Lancet.*

INFLAMMATION OF THE LUNGS IN NEW-BORN CHILDREN.

In a late number of the *Berlin Gazette (Medic Zeitung,)* July 29, 1835, we find a notice of a disease affecting children immediately after birth, which the author, Dr. Kluge, is inclined to range under inflammation.

The disease has been observed from time, to time in the *Charity Hospital of Berlin*, particularly in April, 1832, when, several fatal

cases occurring, it gave rise to a more careful examination of its symptoms and nature. The following abridged case will give an idea of its march:—

Louise Bielecke, 29 years of age, healthy and well formed, was delivered on the 7th of May of a healthy child, weighing seven and three quarter pounds—the child presented no trace of disease, but seemed strong and lively, and immediately took the breast: about twenty-four hours after birth, the child began to exhibit for the first time, a pale colour of the skin, restlessness, and agitation, uttering short, broken, piercing cries. After the lapse of about half an hour, the skin assummed a dull-gray colour, which, on the hands, nose, and about the mouth, passed into a gray-blue. Symptoms of disorder in the respiratory organs now immediately set in; the cry presently became weaker, and was attended by a short, broken cough, accompanied with violent efforts, and during which the child became very rigid. The temperature of the skin was diminished; the pulse frequent. A single leech was applied immediately to the chest, and one grain of calomel with two grains of Carb. Magnes. was given internally. A slight remission now occurred for about half an hour, when the respiration again became quicker, the skin of a darker colour, the face deep blue, the breath cool, the extremities cold, and the infant died in a state of suffocation, six hours after the first appearance of the symptoms.

The *autopsy* was conducted by Dr. Froriep, Prosector at *La Charité*.

The upper part of the body, down to the edges of the ribs, was of a deep blue colour; the veins on the upper surface of the brain and sinuses were much engorged; the brain itself much injected, and some fluid blood was found in the base of the skull after the removal of its contents. In the abdomen nothing abnormal; the veins not much distended with blood. In the neck the nerves healthy, the arteries empty; but the veins excessively distended; the jugular vein had the diameter of a large goose-quill. This excessive fulness of the veinus system extended to the subclavian vein, and jugular and vena cava superior, while the inferior cava and its branches were only moderately distended. The membrane of the trachea and bronchi was bluish, but not softened; heart normal; the foramen ovale open; in the left side only a small quantity of coagulated blood. The right side and the pulmonary artery gorged with blood; the ductus arteriosus open. The lungs of a blue-red colour; at several points of the lung, especially inferiorly, the pleura pulmonalis was separated from the parenchyma, by a troubled brownish fluid. The deep-red portions of the lung swim in water; the dark-blue portions, which are solid and not crepitant, sink quickly to the bottom.

The most remarkable symptom by which this affection of the lungs in the new-born children was preceded, consisted in a change the colour of the skin, which from its natural red tint became pale or ash gray (as in the commencement of cyanosis), and lost its heat. As soon as this colour had been fully established, the pulmonary symptoms set in, but were never accompanied with regular cough. When the characteristic coloration of the skin was noticed sufficiently early, before the development of the pectoral symptoms, the application of one or two leeches, with the internal use of calomel, was in general sufficient to save the patient's life; but at a later period every treatment failed. The coloration of the skin preceded the symptoms of derangement in the respiratory organs by several hours; in some cases even by twenty-four hours.

Dr. Froriep considers the disease just noticed as a true inflammation of the lung, and not as a consequence of mere congestion. 1st. From the examination of the lungs, which contained a gray-brown troubled seriosity (the product of inflammation in its first stage), analogous to the product in gray hepatization.

2nd. From the symptoms during life, and particularly from this circumstance, that although the brain was excessively congested, little fluid was found in the cavity of the arachnoid, while the changes in the lung were much more remarkable under a lesser degree of congestion.—*Lancet*, 1835.

SPONTANEOUS CURE OF A TRAUMATIC CATARACT.

The question whether cataract admits of any cure otherwise than by an operation, has long been debated in surgery. Many writer denie the possibility of its being removed by absorption under the influence of external treatment, while one or two French surgeons of the present day (who pass by-the-by for charlatans in the profession) oppose with warmth all idea of operating, and profess to cure cataract in all its stages by simple medical applications. The case now before us, however, seems sufficiently authentic to deserve consideration.

In the month of January 1834, Dr. Paolo Gerson was called in to visit Francesco Brussi, a child five years of age, who had received a stroke from a sharp-pointed knife in the right eye. Seen two hours after the accident. The little patient presented the following symptoms: a portion of the aqueous humour had escaped: the iris was uninjured, and did not prolapse beyond the small wound in the lower part of the cornea; however, the crystalline lens appeared somewhat troubled, and the surgeon was led to conclude that it was injured, particularly as the patient saw very little with the eye, although the pupil and iris were in a normal state. The child did not complain of any pain in the orbit, and though no symptom of inflammation declared itself, the fear of secondary cataract induced the author to apply six leeches round the temple, and give a gentle purgative medicine. At the end of three days no unfavourable symptom appearing, the case was left to nature. At this period the formation of a cataract was very visible. There was a cloud spot in the

eye, and the edges of the wound showed a tendency to unite with the subjacent portion of the iris; an astringent collyria was ordered, to combat the opake spot, which produced an excellent effect, and after three days the child was permitted to amuse himself as usual. The parents were recommended not to employ surgical assistance, for the removal of the cataract, in too great a hurry. Four months had elapsed, when M. Gerson was again called in to see the patient, whose parents entreated him to undertake an operation. On examining the eye he perceived that absorption of the cataract had already commenced; there was a small perforation in the centre of the cloudy body. Extract of belladonna was now rubbed over the eyebrow; and the dilatation of the pupil per mitted this fact to be established beyond any doubt. As the pupil gradually dilated, the absorption was seen to proceed, and was ultimately completed,—*It Milait, Sebezio.*

NEW PRINCIPLES IN OPIUM.

Two new principles have been discovered in opium by M. Pelletier, who thus names and describes them in the *Journal de Pharmacie* for September 1835.—

PARAMORPHINE.—This substance is white, scarcely soluble in water, and very soluble in alcohol and in ether. Even in cold water it has abitter and styptic taste. By spontaneous evaporation, crystallizes in needles, which adhere to the sides of the vessel. It is slightly soluble in the acids; the alkalies precipitate it from its solution, and an excess of alkali does not redissolve it, unless the alkaline solution is very concentrated. The solutions in acids never yield crystals; the evaporation only furnishes small yellow plates. It is not volatilized at a high temperature, but it is decomposed in the same manner as the orther vegetable alkalies, yielding nitrogen compounds. It differs from morphine in its not being reddened by the action of strong nitric acid, and in its not forming crystallizable salts with the acids; nor is it changed to a blue colour by the salts of iron. It resembles *codeine* by its solubility in alcohol and in either, and by its alkalinity; but it differs from it in not forming large crystals, nor forming crystallizable salts, and in its being precipitated from its solutions in acids by ammonia. It has no analogy with *narceine* or *nicotrine*. The only substance which paramorphine nearly resembles is narcotine; however, the difference of the taste, of the fusibility, and of the solubility in alcohol, is sufficient to distinguish the one from the other.

PSEUDO MORPHINE.—It is but slightly soluble in water, and still less so in alcohol and in ether. Alcohol at 36° R. takes up a little more, solution of ammonia does not sensibly dissolve it; the solutions of potass and soda dissolve it in large quantity, and on saturating the alkalies by an acid, it is precipitated; an excess of acid seems to slightly favour its solution. Strong sulphuric acid turns it to a deep brown and changes it. Nitric acid acts on it in the same way as on morphia, and produces an intense red colour, and finally, converts it into oxalic acid. The most remarkable property of this substance is the intense blue colour which it strikes with the persalts of iron, especially the permuriate. This colour disappears when there is an excess of acid, in the same way as morphia does. The affinity of this substance for the oxide of iron is such, that although it resists the solvent power of sulphuric acid, and is dissolved only in small quantity by hydrochloric (muriatic) acid, yet the permuriate of iron dissolves a considerable quantity of it. This solution is of a fine blue colour. When heated, it becomes of a dirty green; on adding a little ammonia, there is a slight precipitation, and the liquor takes the colour of Alicant wine, and the organic matter cannot be removed without complete decomposition. These phenomena are nearly the same as those presented by morphia when similarly treated. When submitted to the action of heat, the *pseudo morphine* does not volatilize; it does not undergo complete fusion, it is decomposed at the moment it seems to become soft. Distilled in a glass cucurbite, it yields a little oil, and a little water slightly acid, but from which potass disengages ammonia. A large quantity of carbon is condensed when the cucurbite is exposed to the air.

The following is the analysis of the substances compared with morphia, according to M. Liebeg:—

	Paramorphine.	Pseudo Morphine.	Morphine.
Carbon	71.310	52.74	72.340
Hydrogen	6.250	5.81	6.360
Nitrogen	4.408	4.08	4.995
Oxygen	17.992	37.37	16.299

MEDICAL AND PHYSICAL SOCIETY'S MEETING.

Saturday Evening, April 2, 1836.

Mr. Corbyn in the chair.

Present Mr. Mercer, Dr. Cantor, Dr. O'Shaughnessy, Dr. Bain, Dr. Chapman, Mr. Bramley, Mr. Chapman, Dr. Goodeve, Dr. D. Stewart, Dr. A Stewart, and Mr. Wrightson.

MEDICAL AND PHYSICAL SOCIETY.

Proceedings of a Meeting of the Medical and Physical Society of Calcutta, held at the Asiatic Society's Apartments, on the 2d April, 1836.

Dr. Stewart, of the Bombay service, proposed at the last Meeting, was elected a Member of the Society.

Letters from the following gentlemen were then read:

From Dr. Kinnis, of Ceylon, acknowledging the receipt of the publications, presented

by the Society to the Military Medical Library of that Island.

From Messrs. Arbuthnot and Co. of Madras, forwarding the Society's account current with the firm closed on the 31st December last, shewing a balance in their hands of Sa. Rs. 251.4 6.

From Principal Bramley, acknowledging with thanks the receipt of the preparation of the double fœtus, presented to the Medical College by the Society, at their last Meeting.

From Mr. Mackinnon, of Tirhoot, addressed to superintending Surgeon Marshall forwarding two specimens of urinary calculi lately extracted by Dr Mackinnon, from native patients.

From T. Chapman, Esq., of Purneah, enclosing an account of a case of injured spleen, which was excised by Dr. Macdonald of that station, and accompanied by a portion of spleen which had been removed, and which was presented for the Museum.

The subject of the case was a native about 30 years of age, who was gored in the abdomen by a buffalo : though the wound, which was about 3 inches in length, protruded a portion of the spleen, six days afterwards the man sought medical advice from Dr. Macdonald, who at first tied a ligature round the mass with a view of interrupting the circulation, and thus causing it to slough off; on further consideration, however, he determined to remove it with the knife, which was accordingly done, and the patient rapidly recovered.

Dr. D. Stewart remarked that he did not see the necessity of applying the ligature; the spleen might have been safely removed at once by the knife.

Dr. O'Shaughnessy recollected having read of a case which occurred in 1809; it was of a girl; the spleen protruded but sloughed off; the girl lived five years after having received the injury.

Mr. Corbyn took this opportunity to remind members that they had no spare room for a museum, and suggested that as Mr. Evans, a scientific and talented member of the profession had, he Mr. Corbyn rejoiced to say, been appointed by Government curator to the Medical College, he would recommend that all morbid preparations now in possession of the Society and such diseased parts which might be hereafter received, be transferred to the museum of the Medical College and placed under charge of Mr. Evans, to be prepared and preserved. Mr. Corbyn was sure that the object gentlemen had in view in sending these preparations, was to promote the knowledge of morbid anatomy, which would be fully obtained in diffusing that knowledge among the medical students and numerous visitors to the College. Mr. Corbyn hoped also that it would be an inducement for medical men in various parts of India to send valuable specimens of morbid anatomy, when they learn that a highly qualified curator would receive them Mr. Bramley fully concurred in Mr. Corbyn's views, and said that he should be most happy to direct Mr. Evans to take charge of the preparations alluded to.

It was then proposed by Mr. Corbyn, seconded by Dr. Stewart, that the preparations of the Society's museum be made over to the charge of the Medical College.

This resolution was carried unanimously.

A communication from Mr. Masters, of the Botanical Garden, was then laid before the Meeting. Mr. Masters stated that he had been directed by the Right Hon'ble Lord Auckland to inform the Society that His Lordship had brought out with him in the *Jupiter* a number of plants of different kinds, amongst the rest several of a medicinal nature, and he requested the Society to inform him whether any of these were likely to flourish in India; what would be the best method of disposing of them, and whether any members of their body resided in situations favourable to the cultivation of the different specimens, so that they might be made over to their charge. Among the list were—smilax sarsaparilla, guiacum officinale, pastinaca opoponax, dorstenia, contrayerva, quassia amara, pistacia lentiscus, juniperus sabinœ, atropa belladonna, &c.

Mr. Corbyn said that some of the plants which were mentioned in the list were indigenous to India; but as those his Lordship had brought out might be of a superior description, he Mr. Corbyn, would suggest that they should be placed under the charge of Dr. Wallich, and that he be requested to report upon the kind of climate in India best suited to them.

Dr. O'Shaughnessy detailed the several kinds which he knew to be indigenous to this country.

Dr. Stewart suggested that a sub-committee should be appointed in order to ascertain the value of the plants, and take such steps as they might deem expedient to their preservation; and that the sub-committee be directed to express the sense the Society entertained of the favor the Governor-General had conferred on the Society by this mark of his consideration. After some observations from Mr. Bramley, which sided in the sentiments expressed by Dr. Stewart, it was proposed by Mr. Bramley, seconded by Dr. Goodeve, that a sub-committee be appointed to receive the plants and report upon their value as well as give a suitable reply to the queries of Mr. Masters,

through whom it might be communicated to the Right Hon'ble the Governor-General.

The Members of the Committee to be Messrs. Corbyn, Stewart and O'Shaughnessy.

This was unanimously agreed to.

The following communications were then presented :

An account of an examination of the double fœtus, presented to the Medical College, at the last meeting, drawn up by Dr. Goodeve.

Cases of diseased eye, by Mr. W. O. Green, Assist.-Surgeon, presented by the Medical Board.

A paper upon mortification, by Dr. Wise, of Hooghly, accompanied by drawings, and a preparation of a diseased hand for the museum, presented by the Medical Board.

A paper upon some of the consequences arising from the use of lead for various purposes on boardship, by the late W. Twining, Esq., was then read and discussed.

This paper was an unfinished one which was in progress of preparation at the time of Mr. Twining's lamented decease, and was consequently in many respects imperfect. The paper was written in consequence of several cases of lead poisoning having occurred on board the ships *Broxbornebury* and *Othello*, many of which were brought to Mr Twining's notice. The ship *Broxbornebury* sailed from England in the spring of 1834, and arrived in the Hooghly on the 23d September, having touched at Madras and remained there several days.

While the ship was at Madras, a supply of arrack was taken on board for the use of the ship's crew. Soon after their arrival at the Sand Heads the men began to suffer from colic, and in 6 or 7 weeks from the date of the arrival of the arrack on board, a large proportion of the crew were more or less affected with the symptoms of of colica pictonum—of these twenty-two came under Mr. Twining's care. On representing to the Captain that these diseases must have been produced by the use of lead amongst the crew of his ship, he appeared incredulous, as he could not attribute it to any cause of the kind. The only purpose for which lead had been employed on board were the lining a large harness, each with two divisions, in which the contents of a cask of beef and another of pork were deposited for daily use, and a leaden pipe through which spirits were pumped up from the casks in the spirit room. It became necessary therefore to as certain to what extent lead was soluble in the brine of salted meat, or in the brandy which had been used during the voyage to Madras, or in the arrack which had been served out from the date of the ship's arrival at that port. For that purpose several experiments upon these fluids were made.

Experiment I.—A portion of the brandy was taken ; its specific gravity was 932 and with tests it indicated an acid reaction. Two rods of polished lead, weighing grs. $342\frac{90}{100}$ were put into a phial containing 10 ozs. of this brandy, which was covered loosely. At the end of 6 days the surfaces of the leaden rods were considerably tarnished. At the end of 15 days a dense cloud had collected round the rods, the lead had become of a dark brown color, and the brandy in which they were immersed was of a much paler color than at first. At the end of 40 days there was a large quantity of this colored precipitate found at the bottom of the phial. The rods were removed from the brandy and found to have lost grs. $5\frac{90}{100}$. The brandy was observed to have lost much of its original color, and its specific gravity was 792.

Experiment II.—The Madras arrack was clear and transparent ; its specific gravity was 933, and with tests it afforded a strong acid reaction. Two rods of polished lead, weighing grains $330\frac{80}{100}$ were put into a vial containing 10 ounces of this arrack, which was loosely covered in the same manner as the brandy. In the course of 24 hours the surfaces of the rods were in a remarkable degree tarnished, showing a prompt and strong action of the liquid on the lead. At the end of 5 days the surface of the rods had acquired a brownish or tan color, and their surfaces appeared to have become rough. The discoloration of the surface of the lead gradually increased until they became of a deep brown colour, and a small quantity of grey precipitate was observed at the bottom of the vial, the arrack remaining transparent. At the end of 40 days the rods were removed from the arrack and allowed to dry ; they were then weighed and found to have lost grains $7\frac{70}{100}$. At the conclusion of this experiment the arrack was of spec gravity, 972, and was strongly impregnated with lead.

Experiment III.—Two rods of polished lead, weighing grains $335\frac{20}{100}$ were put into a vial containing 10 ounces of brine in which the pork had been pickled and brought from Europe. This liquid was turbid and so much coloured that the appearance of the rods during the time they were immersed in the brine could not be distinctly seen. At the end of 40 days the rods when taken from the brine, were not perceptibly tarnished, and they were precisely of the same weight as when first put into the brine.

Experiment IV.—A portion of distilled water was then subjected to a similar experiment. At the end of 40 days the rods were covered with a slight discoloration

and were found to have gained $\frac{5}{100}$ of a grain owing to a minute coating of carbonate of lead on their surfaces.

Experiment V.—The semifluid grease in which the pork had been boiled was then made the subject of experiment, but no trace of lead was discoverable in it. Hence it appeared that the meat had not acquired any noxious properties from the leaden cask in which it had been contained.

The ship *Othello* sailed from Liverpool on the 3d November, 1826, having taken on board water for the voyage contained in two large tanks lined with lead. On the 1st April, the ship arrived at Calcutta During the voyage 18 of the crew suffered from colica pictonum. The first man was attacked, on the 1st December, from that time forward the disease continued to spread among the crew, several of them suffering from relapses,—some had the disease as many as 4 and even 6 times during the voyage. The symptoms being very severe and distressing. From these circumstances Dr. Twining concludes that the cause which produced the disease must have existed throughout the whole voyage. Two of the men died at sea, one of these after he was convalescent, while walking on the ship's deck was suddenly attacked with apoplexy and expired. This man's death is attributed by Mr. Twining to exposure to the sun. The other died of cholera after his arrival in Calcutta. At the commencement of the voyage, before any of the people were taken ill, there was heavy rain and the water which could be collected from a canvas awning, was collected and used for cooking and drinking by the crew. When the ship arrived in Calcutta, Mr. Twining was requested by the Captain of the *Othello* to examine the water tanks. He found two large tanks of 3 inch plank, lined with thick lead, each of them 13 ft. long, 4 ft. broad, and 5 ft. 3 inches deep.

The water in the starboard tank was about 2 ft. in depth clear and apparently in good condition. A bottle was first filled from this tank and the water was then completely agitated from the bottom, several bottles were then filled from this water which was somewhat turbid. From the results of the experiments made upon this water, it would appear to have contained lead in considerable quantities, but the paper here ends abruptly in the middle of one of the experiments.

Dr. O'Shaughnessy eulogized the memory of the lamented writer of the paper just read. It seemed probable to him that the lead which caused the symptoms detailed existed in the arrack shipped at Madras. This spirit frequently contains lead and often traces of copper. Mr. Twining made no analysis of the arrack itself, but only investigated the question whether it could corrode lead or not.

Mr. Bramley remarked that the result of the experiments went satisfactorily to prove that it was the carbonate of lead in these cases which had induced the colica pictonum. It was an important fact the paper had elicited from Dr. O'Shaughnessy, that lead was always found in the arrack of this country.

Dr. O'Shaughnessy referring to the question whether brine could corrode lead or not, quoted Dr Christison's experiments which denote that corrosion and the formation of carbonate of lead do take place when brine and lead ore come in contact with the air.

Dr. Stewart regretted that so much pains and trouble should have been thrown away to so little purpose, as appeared to be the case in regard to the crew of the *Broxbornebury*. In a paper of his, read at a meeting of the Society in February, 1835, while that ship was in harbour, and at which meeting the surgeon* of the ship was present, Dr. Stewart had narrated the history of six cases of colica pictonum sent from on board the *Broxbornebury* to the Howrah Seaman's Hospital, with the symptoms, treatment, and termination of each: he had in that paper refrained from naming the vessel on which they occurred out of regard to the feelings of the owners and Captain, a highly honorable and humane man; but he had felt it his duty to acquaint him distinctly with his opinion, and also to submit that opinion without delay to his professional brethern. Dr. Stewart had visited the ship, and upon inspecting the leaden tanks into which the salt junk was wont to be transferred once a fortnight for ready daily use, he had observed on the inside of each at the level mark of the brine, a pretty broad white belt, and upon enquiry, received a distinct acknowledgment by the chief officer, that upon occasions of emptying and replenishing the tank, a considerable encrustation of a white powder had frequently been discovered just at the line where the brine coming in contact with the external air was most sure to act upon the lead and oxydise it. Though generally filled once a fortnight, the tank had not been very regularly cleaned out, the dangerous consequence of this neglect having never for a moment been apprehended. So palpable an evidence of the fact of white lead having been mixed with the ingesta of the crew during the voyage, had left not a doubt in his mind, as to the cause of the colica pictonum, which more or less affected all the crew, but *none of the passengers*, and he marvelled exceedingly that a man of Mr. Twining's talent and shrewdness should have wandered in quest of other probable or possible sources of poison in an examination of the water, the brandy, or arrack, used on board, although these were subject to the

* Dr. MacDonnell, now of the Madras Medical Service.

occasional trivial contact of the leaden tubes. He would not comment upon the singular constitution of mind which led his lamented friend into investigations which terminating in nothing, differed only from the simpler and more philosophical researches of others in overlooking the obvious, the natural, and the already sufficient causes of things in the fanced discovery of others alike improbable and unreal. Although, therefore, he gave all credence to the idle experiments now quoted, and to all the indisputable inferences drawn from them, and felt grateful to Dr. O'Shaughnessy for the really valuable *fact* which he had just stated, in connection with them; he still saw no reason to alter his former opinion that the colica pictonum on board the ship *Broxbornebury* was produced by the salt meat kept in the leaden tanks; and he would now also add his farther conviction, since the opposite opinion was broached, that the arrack, the water, the brandy and the spirits had nothing whatever to do with it. The use of lead tanks either for meat or water had long been prohibited in the Navy; their employment being superseded by that of iron vessels; and it was believed that few, if any were to be found in merchant vessels. The shipment, however, of water and arrack at Madras was no uncommon practice; yet no such effects were ever known to result in other ships as were attributed to this procedure in the case of the *Broxbornebury*. Mr. Twining seemed to attach much weight to the circumstance that no cases of colic occurred until after the ship left Madras, but in doing so he overlooked one of the most striking facts connected with the history of lead poison discovered by Dr. A. T. Thomson, viz., that its effects are slow, and cumulative like those of digitalis. It was not the case that the crew were in good health upon arrival at Madras. On the contrary there, and very remarkably on arrival here, they all looked sallow and shabby, had indigestion and other stomach ailments, although none complained, until the occurrence of violent symptoms excited alarm and suspicion among them, greatly encreased by the rapidly fatal termination of 8 or 9 of the crew.

With regard to the pathology of the disease, and the modus operand of the poison, Dr. S. had on a former occasion stated his opinion, that the primary effects of the lead in these cases were local, acting sedatively upon the sentient extremeties of the nerves of the intestines, paralyzing the muscular fibres, and thereby giving rise to the enormous distention, the obstinate costiveness, the blanched appearance of the coats, and all the other usual symptoms.

This opinion he formed from observing the immediately soothing effects of lead when used as an external application to irritable ulcers and inflamed surfaces; its effects likewise in arresting hemmorage and the producing paralysis of the hands and wrists of persons employed in its manipulation; he believed with Messrs. Morgan, Addison and Travers that the cerebral affection which in all the severe cases was invariably present, was the immediate or primary result of this constitutional irritation propagated along the nerves, from the great nervous centres, and not those of absorption of the poison by the blood vessels, and its direct influence on the brain although he considered both actions quite, compatible with each other. In the only fatal case which occurred in the Howrah Hospital, and in *all the fatal cases on record*, it will be found that death has been immediately consequent upon an apoplectic or epileptic seizure. In the severe cases, where recovery has followed, yet the symptoms of irritation of the cerebro spinal axis were always urgent, and such as to call distinctly for relief by the lancet. In the subsequent treatment, free depletion was followed by opiate and tobacco enematta; and in no case was a solution of the paralytic paroxysm procured, nor did ordinary stimulæ produce any effect until these measures had been promised. Had the colic been the result of absorption Dr. S. argued that a totally opposite effect would have followed, since it is well known that depletion is resorted to, to *promote* the constitutional effects of mercury, &c. The pathology of colica pictonum was still, however, imperfect from its rare fatality; and perhaps on that account more had been written about it than almost any other disease. The greatest obstacle to its elucidation was the preconceived prejudice of its unphilosophical students.

One *fact* alone had he been able to gather from all the histories of colica pictonum, and that, as he had just stated, is the invariable attendance of apoplexy or epiepsy upon the fatal terminations. Yet the last writer on the subject, M. Grissole, whose thesis is so much lauded by the *Lancet*, after recording 58 cases with a minuteness of symptomatology thoroughly useless and bewildering, calls this "accidental" in the only two cases which proved fatal.

Dr. Goodeve fully concurred in Dr. Stewart's views as related to the sedative effect of lead on the extremities of the nerves; he adverted to that celebrated physician's practice, Dr. Macartney, professor of Anatomy, Trinity College, Dublin, who was in the habit of applying pledgets of lint in solutions of lead upon the extremities over which he placed oil cloth to prevent evaporation; the absorption of the lead invariably affected the extremities of the nerves as alluded to by Dr. Stewart.

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AN ACCOUNT OF ISLAMPOOR.

By H. Clarke, Esq.
Surgeon of the 22nd Regiment.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—As I do not remember to have seen any notice of this place in the Medical Jonrnal, a few remarks may perhaps be not unacceptable, especially as all that is necessary to be said may be comprehended within a narrow space. It is well known that Sheikhawat is a sandy dreary district, inhabited by a scanty population—and, until a little tranquillity was restored by the presence of the British troops—abandoned to the tender mercies of desperate marranders, against whose depredations no security was afforded. The station occupied at present by the 22nd N. I., 3rd Regt. Local Horse, and a detachment of Artillery, appears to have been well chosen. Being situated a few miles from the village after which it has been named, close to another, denominated Bhugur. Our camp lies a little to the south and west, from Delhi, distant about 150 miles, in the midst of an extensive plain, consisting of very fine yellow sand, driven into ridges and inequalities by the wind:—a few prickly babools and byers, with one or two low shrubs, on which the camels of these deserts browse, spring up from the barren soil, but scarcely any thing rising to the magnitude of a tree comes within the sphere of vision. Rocks appear at intervals of two or three miles, particularly in the direction of N. E. and S. W. where detached hills of inferior elevation, and generally of conical form, jutt out from the earth as outlines from the respectable range which runs southwards from a sort of promontory at Khetree and Singhawee, where copper mines have been wrought successfully for a time beyond the memory of the present generation.

These isolated hills, so far as my examination has gone, consist of porphyry and granite. Near the villages of Islampoor, a rock composed of a red variety of the latter, nearly resembles in size and shape, the conical mass which stands in the Ganges at Colgong. Some of the former are also beautifully varied in colour. At Jhoonjhnoo, 8 miles to the westward, these peculiarities are more strikingly displayed in the bold masses which rise above the town. Having touched upon the subject of geology, it may be stated that from the quartz and sandstone about Delhi, clay slate and mica are traced about Rewarree, and, in the ascending scale in progress westward, to the primitive rocks of crystalline formation enumerated above. Throughout the whole of this road (*road* there is none in very many places) deep and heavy sand prevails, with most scanty vegetation, over the surface of which. At Hnrsroo we march from Delhi;—nodules of calcareous earth are strewed, in which are embedded numerous small white shells. Near Rewaree also, in pits a few feet deep, similar concretions are dug out of the sand, for the purpose of being converted into lime. On examing the sand removing a well about 30 feet deep close to this cantonment, I found only a few nodular concretions, consisting of sand, agglutinated by a calcareous cement. At Jhoonjhnoo I procured concretions with shells, embedded in the sand a few feet below the surface, about a mile from the town, and in another place, a short distance from the porphyritic rocks, similar nodules, grey, and friable, studded with minute white shells, immediately inferior to which exists a stratum of hard, compact, limestone, beautifully white, described by the person employed to excavate it, as being two or three feet in thickness, immediately below this sand occurs again. These two were the only localities known to my informants, whose occupation is to sink wells and buolees. A bare inspection of the specimens obtained from a large quantity of this limestone, may enable any one unhesitatingly to pronounce it a deposit. The above outline of *facts* are interesting to the geological enquirer. How much further to the westward, amidst almost interminable sands these geological features extend, remains to be determined; but from within one march of Delhi to Jhoonjhnoo in Sheikhawat calcareous concretions, containing the small white shells alluded to came within the sphere of my own

observation. I leave others to speculate on the question of fresh and salt-water formations, having satisfied myself with the fact of their existence over a space of about 150 miles, above and beneath the surface of the sand. Without improving the *motives* of writers who have indulged so freely in fanciful conjectures, when treating on this interesting subject, it is painful often to see the reckless daring with which they have "travelled beyond the record," "assigning repeated" revolutions to our globe, as often as the disruption of the strata suggests to the fertile imagination so convenient an explanation!! A "vigorous uncompromising search after truth," sometimes being considered a sufficient answer to the sober remonstrances of calm and reasonable objections. The *result* of patient philosophical investigation in this, or any other branch of physical research, need not be doubted. With Buckland and Careybeare and Ledgwich, the issue might be fairly left, but with "Penn's comparative estimate" in his hand, the christian geologist may proceed with confidence, assured of meeting with a satisfactory reward in his own attractive investigation; firmly—

Infinite strength, and equal skill,
Shine through the world abroad;
Our souls with vast amazement fill,
And speak its builder—GOD.
Whose essence is a vast abyss,
Which angels cannot sound;
An ocean of infinities
Where all our thoughts are drown'd.

A few small patches of cultivation near the camp of the 22d serve to prove that with sufficient irrigation, and adequate security to the cultivators, an ample return would be afforded. The harvest is later than in the provinces to the eastward in consequence of the frosts, which deter the laborers from putting the barley and wheat into the ground until the spring commences. Bájru, jowá, and mout, are grown, and carrots and onions have been also raised, among other horticultural attempts. An intoxicating beverage is made in the bazar from poppy capsules, brought from the vicinity of Singhánn, which on being bruised and macerated in water, yield an infusion pretty generally used as a substitute for opium.

The climate of Islampore has hitherto been considered healthy; about the 10th of the present month strong western winds prevailed, which for a few days yielded to eastern breezes; the former, however, appear to be setting in again, with a gradually increasing temperature. The Therm. at noon, stands in the shade at 77° 8° F. and the mornings and evenings continue cool. The warming below 60°. In the hottest weather the nights were very refreshing.

ON THE CANINE DISTEMPER OF BENGAL.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—A great deal has been said upon the diseases to which men, who come into the tropics from a cold and distant latitude, are subject. It has appeared on the clearest evidence that diseases in Europe, known by certain names and a certain train of symptoms, differ exceedingly from diseases which bear the same name in the tropics, and faintly show the same symptoms: so great is the difference that at times it is hard for a young practitioner to identify them. The imported dog is no less subject to differ in ailments from the dog on his native soil. Every sportsman knows that European dogs lose their acute scent on coming into the tropics; but few care about the more secret, and malignant effects of Bengali climate. It is, therefore, my intention to devote a page or two on the canine distemper of this country. The canine distemper of Bengal assumes some characteristic type, like the disease in Europe; but season of this country has more power over the canine race than in Europe: for instance, the distemper here is most frequently of the lank kind, raging about the months of April and May, a period at which sheep also become affected with a species of emaciation, attended with diarrhœa, the malady seldom fails to destroy. Goats brought down from the high countries into Bengal are also very liable to die of a disease very similar to what sheep are subject; the symptoms are lankness, diarrhœa, great discharge of mucus from the nasal membranes, and in the last stage, maggots in the nose. Imported dogs are very rarely affected with that kind of distemper which attacks the *pariahs* of Bengal. The latter suffer from the mange, and at the same time there is present a dry cough with equivocal symptoms of distemper. But in English dogs this scourge of the canine race seems to assail with acute power, and unmanageable disease. Sometimes ulceration of the pituitary membranes occur, with profuse discharges from the nose and eyes. Sometimes with these appearances are united much cerebral congestion. The lungs are affected; the bronchial passages are blocked up by an accumulation of thick mucus. When the nose is hot and dry, it indicates inflamatory tendency in some of the viscera; to remove obstinate costiveness croton oil is the best purgative, and may be given to the extent of iv. grs. Purgative enemas are also attended with good effects. Although this is rarely requisite, for the distemper of Bengal is more frequently accompanied by a diarrhœa. I have seen

the complaint come on in a very distressing state soon after the breeding season, which commonly lasts from the month of November to March, a period when the atmosphere is very humid and cold. Dogs by going about the yard during night contract the distemper in very severe form, and very often enteritis of an acute and fatal nature. It is therefore advisable to keep these animals in a warm room, allowing straw or coarse blankets. In the hottest months when distemper of the putrid kind proves most fatal to dogs, a cool place is necessary; but Mr. Blaine is right when he advises their being kept warm in every stage but the putrid. In animals of the canine race, there is such a high degree of momentum in the circulation, that it is not easy to ascertain whether they labour under any organic inflammatory disease: none but experienced veterenarians are able to tell by the pulse the precise state of the system, inasmuch as relates to inflammation or strength. Now we are always at a loss for want of symptoms to form a proper diagnosis. A discharge from the nose very occasionally attends the canine distemper of Bengal. In the very worst cases this symptom is present, whether it is an effort of nature to relieve herself, or whether it depends upon some morbid action, my experience does not enable me to decide: a spongy dryness of the nose is looked upon as a bad prognostic; it warns us that inflammation is gathering somewhere. In enteritis and cholic it is present, a moderate moisture on the nose is nothing more than the mucus natural to the parts, and is in my opinion, a healthy symptom.

Whatever the distemper may be in England, in this country it seems to arise from other causes, as well as contagion, chiefly when the subject is weak or badly fed. I am of opinion, with regard to distemper, as Dr. Moseley is to the rabies in the West Indies. I think it may come on like the latter disease from the operations of heat and moisture in the atmosphere.* Jackals belong to the canine genus, and I have frequently shot in the same season two or three, which seemed to have suffered from distemper of a chronic nature. Blaine is doubtful about jackals or wolfs being liable to distemper; but the worthy pathologist had not opportunities enough to ascertain facts relating to this matter, had he seen half the number of jackals I have, he would think them liable to half the diseases in his catalogue. My experience enables me to say that foxes are also liable to a number of diseases in this country, for I have met mangy and emaciated ones very often in the jungles of India. I cannot answer for the wolf, but suspect that with the other members of the canine tribe, he is also liable to distemper. It is to be remembered that distemper is a disease which puts on a variety of forms, and is blended with other ailments such as enteritis, diarrhœa, and mange. Nay, there are some doubts in my mind as to the distemper being connected with the rabies, for there are many symptoms in the latter, which closely resemble those in the former. One thing is certain, that distemper may come on without contagion, and that it depends more upon some organic disease, or derangement in the animal functions than upon the communication of a specific virus: however I do not deny the power of contagion to distemper. Commonly in this country the organic derangements are in the lungs, in the mucous membranes of the head, in the bowels and other viscera. I have seen a kind of distemper here which lasts for some months during the rainy and cold season, and disappears in the hot weather; it is most frequently attended with cough, pulmonary congestion and lankness; another type of the disease comes on in the very hottest months, chiefly in imported strong dogs; it is acute for a few days and terminates fatally when the victim dies in great agony, howling and tossing.

Sulkea, April, 1836. J. G.

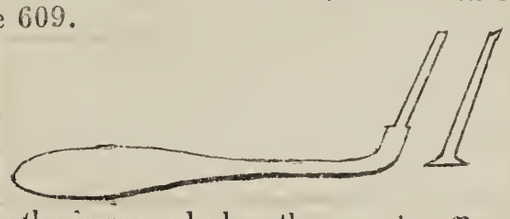
* Moseley on Tropical Diseases p.

SURGICAL CLINIQUE, CAWNPORE.

OPERATIONS FOR FISTULA LACHRYMALES.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—The unsatisfactory result of the ordinary mode of operating until the introduction of the simple and beautiful method, adopted by Dupuytren must have occurred to every Surgeon, who has had occasion to treat this disease. The description of the instruments is given by Dupuytren at full length in the 1st volume of the *Lancet*, for 1832-33, page 609.



By the improved plan, the cure is effected immediately, and the operation accomplished with facility and expedition. The pain being inconsiderable. Indeed, to use the words of Dupuytren, "the patient is generally unaware that any thing has been introduced into the lachrymal sac."

Dupuytren has given no plan of the instrument, but the description is so clear, that it can be easily made. and some are now included in the more complete sets of eye instruments sent out to this country, though not so well made as they should be, and consisting of copper instead of silver and gold.

The following is a representation of the instrument, consisting of a canula of 8 or 9 lines for the adult and five or six for the children, and a stilet. The stilet, when used, is inserted into the canula, which it should accurately fit, and is of finely polished steel.

The incision into the lachrymal sac is made in the usual manner with the sharp pointed bistoury, between the tendon of the orbicularis, and nasal angle of the superior maxillary bone, and the canula mounted on the stilet is immediately introduced into the nasal canal. The stilet is then withdrawn and the canula allowed to remain in the canulis lachrymalis, with its head resting on the lower part of the lachrymal sac. The wound generally heals by first intention and all vestige of the disease generally disappears. To ascertain the accuracy of the operation, the nostrils are closed and the patient is desired to make an effort of expiration, when the air passing along, the canula escapes above with a hissing sound. If again the nasal passage be left full, and the action of blowing the nose expel blood or matter by the nostril, the counter proof of free communication is obtained.

Case 1*st.*—A fine boy received a violent kick from a horse, by which the nasal bones, and the nasal portion of the superior maxillary bone were fractured, and driven inwards; the nasal canal injured and ultimately obliterated, and the poor little fellow had suffered most severely for 10 months; the sensibility of the eye being severe, the redness of the conjunction and discharge of tears considerable he suffered from headache; there was likewise much swelling of the eye-lids, and the nostril was of course dry; there was cicatrix and deep intentation of the nasal bones; a fistula lachrymalis having been the consequence of the injury. In this condition he was brought to me; the integument opposite the lachrymal sac being highly erysipelatous and the fistula discharging perrulent matter, mucus, and tears. After a short process of antiphlogistic treatment, with soothing applications locally, the operation was accomplished, the nasal canal was found to be quite impervious, and it was necessary to force the canula through, where it was allowed to remain. The wound healed in a few days, and the child was perfectly cured.

Case 2*d.*—Bhola æt. 50. zemindari prisoner in the Cawnpore jail, affected with fistula lachrymalis for 2 years; the operation performed as above and the paient cured.

Other cases might be adduced in illustration, but the superiority of the operation is so evident that they would be superfluous

F. H. Brett.

INTRO-SUSCEPTIO.

By T. E. Baker, Esquire.
10th Light Cavalry.

To the Editor of the India Journal of Medical and Physical Science.

Sir,

March 11*th.*—Early this morning Mr. Peake's infant, abont 4 months old, without any apparent cause, cried most violently, and it was supposed the servant had let it fall.

A dose of castor oil was given, which has rejected; soon after it had a very copious motion, and vomited two or three times. The child continuing uneasy, I was requested to see it. There was no appearance of any injury having been received, but it was in pain when moved; the pulse was good, and the skin cool, but it frequently drew the knees up, and appeared to have pain in the abdomen, which was increased on pressnre. I ordered fomentations to be applied, and an injection with castor oil and *conjee.*

P. M. Continues much in the same state, with intervals of ease, when it readily takes the breast. Has passed some blood and mucus, but no feces. Apply eight leeches to the abdomen, afterwards use fomentations and the warm bath, and laxative enema to be repeated. If in pain during the night, to use injections, with ten drops of laudanum and conjee water.

12*th.*—Slept a great deal during the night and appears easier this morning. Has not had any motion but merely passed a little mucus. The pulse was very low after the leeches were applied, but it is now firm and rather quick.

To give three grains of calomel, and an hour after, a dose of castor oil. The oil was rejected, when the calomel was again given, and afterwards a dose of rhubarb and magnesia, and the laxative enemas were repeated. From the symptoms, and the very small quantity of the injections retained, I expressed my opinion that the child had intro-susceptio, and that there could be little, or no hope of recovery.

P. M. Much the same this evening; has been sick two or three times, and threw up a little bile.

To continue the fomentations, warm bath, and enemas.

13*th.*—Is worse this morning; cried frequently during the night, and appeared very uneasy. The same treatment continued, as it gave some relief, but the child gradually sunk and died at 10 o'clock.

Inspection.—The parents very properly requested that the body might be examined and the cause of death ascertained; and it was inspected by Mr. assistant surgeon McRae and myself six hours after its decease.

We found the small intestines very much distended with air and feces, and on turning them over to the right side discovered the seat of the disorder. There was an intro-susceptio of the colon on the left side, where it dips into the pelvis. About an inch of the ilium, and the whole of the colon, from the capet coli to the rectum, were involved in the intro-susceptio. These parts were completely removed from their natural position, and puckered up into a hard mass, three inches in length, in the situation of the sigmoid flexure of the colon. The mass externally was not changed in color, but had a corrugated appearance, and felt when handled, like a portion of the colon distended with feces. The impaction of the inverted intestine was so firm, that although adhesion had not formed, it required considerable force to pull out the parts from their unnatural position, and the last six or seven inches could not be unsheathed without tearing the intestine. About three inches was thickened and inflamed, or rather had the appearance of congestion than inflammation. The rest of the intestine was in a natural state, though about fourteen inches were included in the intro-susceptio.

This was a remarkably fine healthy child, and when first taken ill, I was doubtful as to the nature of the disorder. For a considerable time it remained perfectly free from pain, took its nourishment and slept; suddenly it would appear uneasy, draw up the knees, and throw back the head. It was often five or six hours without rejecting its food, and passed its urine as usual. So small a quantity of the injections being retained, it was supposed the obstruction might be in the rectum, and a bougie was introduced, but it passed up without any difficulty.

HOSPITAL PRACTICE.

2ND OR QUEEN'S ROYAL REGIMENT.

By R. H. Hunter, Esq.

GASTRO ENTERIC.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—No. 1. T. L. Ætat. 30. Healthy habit. Admitted 24th May, 1835. Vesp. complains of headache and pains in his loins and limbs of three days' standing; some tenderness of abd. and flatulence. Skin warm and dry. T. covered with a yellow fur. Thirst, Anorex. B. relaxed. P. 92, moderately firm, V. S. ad. ʒ x. Cal. gx. c. opii gr iss. 25th. Blood loose. Remission. P. 92. Tenderness and increased resonance of abd. ol. resin ʒiv. Hirud. xxiv. Abal. et form Calid. Vesp. Exacerbation. Rept. Cal. and Op. Ung. Hyd. in Axillas, nocte manaque ʒss. 26th. Frequent dark watery motions in the night. Remission. P. 76. Abd. full, tender and very resonant. Hirud. xii. Abd Pil. Hyd at Pnl. Rhae. a a gr. iii, 3 g. g. hora. Contr. Form, et Ung. Hyd. 27th. Six fœtid watery motions. S. cool. T. white. Some appetite. P. 64. Abd. very resonant, but not tender. Ol. Ricini, ʒiv. Cont. Pil. et Ung. 28th. No motion since 9 P. M. Mouth sore. Ap. improving. P. 72. Reptr. Ol. et Contr. Pil. Omit. Ung. Hyd. 29th. Only one bilious motion in the night. No pain. P. 64. Habt ter in dies Ol. Ricin. ʒjj. Omit. Pil. 30th. Three loose bilious motions Apyrexia Contr. Ol. 31st. Motions more consistent, and of natural appearance. Mouth still sore. Apyrexia. Cont. Ol. June 1st. Convalescent. Mist. Aper. Amar. ter, in dies ℥ jj.

No. 2. J. C. Ætat. 28. Healthy habit. Admitted 10th July, 1835. States that two evenings ago, he was seized with shivering, followed by increased heat, which went off by sweating yesterday afternoon. Heat returned in the evening, unpreceded by chill. Now perspiring. T. furred, rather dry. Thirst, Anorexia. B. open. U. high colored. P. 96, moderate. Stat. Cal. g. x. c. Pulv. Jalap C gr. xx. et Pulv. Ant. gr. v. Meredie, Sulph. Magnes ʒiv. Vesp. B. freely moved. Trunk warm and dry. Extremities cool. P. 84, rather firm. Epigast. tender. Abd. very resonant. V. S. ad. ʒx. Pil. Hyd. et Pulv. Rhie. *à à*, gr. iv. ter in dies. Haust. Salin Diaph. tertia g. g. hora. 11th. Blood loose. Chest and Ab. warm and dry. Extremities cool. B. free. P. 88. Abd. full, with some tenderness in unbilical region. Hirud. xxiv. Abl. et Form. Calid. Stat. Sulph. Magnes. ʒiv. still confined to the trunk. Abd. full and very resonant. Hirud. xxjjj. Ab. Contr. Fom. et omnia alia. 12th. Some headache, but tenderness of Abd. gone. Sk. cool. T. cleaning at edges. Thirst. Anonex. B. open. P. 84, small. Contr. Pil.; Ung.; et Haust. Vesp. Again some tenderness of Abd. Hirud. xjj. Abl. Reptr. Fom. Contr. Alia. 13th. Headache. Sk. cool. P. 72. Contr. Vesp. mouth sore, still some tenderness of Abd. P. 94, small and soft. Cont. Fom. et Haust. Contr. Alia. 14th. Mouth very sore. Tenderness gone. Apyrexia. Sulph. Magnes. ʒjj. stat, omit. Alia. 15th. Had a return of pain for two hours in the night. Month very sore. Apyrexia. Stat. Ol. Ricin. ʒvj. 16. Vesp. Had a cold chill at 2 P. M., succeeded by increased heat. Now sweating. P. 92, rather sharp. Haust. Salin. Diaph. p. v. n. 17th. Apyrexia Haust. Sulph. quinine. tertia. g. g. hora. 22d. No return of fever. Convalescent. August 1st. Discharged.

CATARRHAL.

No. 3. W. D. Ætat. 35. Healthy habits Admitted 26th September, 1835. Complain.

of weight and oppression at chest, and general soreness, unpreceded by chill. Sk. warm and dry. T. furred. Thirst. Anorex. P. 96, rather firm. Resp. clear, V. S. ad ℥ xii. Stat. Cal. gr. x., Pulv. Ant. gr. v et Jalap. C. gr. xx. 27th. Blood red, frothy, and slightly sizy: medicine has not operated. Pyrexia. Solut. Tartarizat, 2da, g g. h. ℥ jj. 28th. Vesp. B freely moved. Feels much better. P. 108, small. Pil. Hyd. gr. iv. c. Pulv. Rhae, gr. iv. et. cras. mane, Sulph. Magnes. ℥iv. 29th. Vesp. Fever exacerbated at 3 P M. with shivering. Skin, hot and dry. Pil. Hyd gr. v. c. Pulv. Rhae. gr. jjj. ter in dies. Haust, Salin. Diaph. 3 g. g. hora. 30th. Perspired freely towards morning. Skin pretty cool. B. slow P. 100, small. Some tenderness in right iliac region. Hirud xjj. p. d., et Fom. Cal. Sulph. Magnes. ℥iv. Contr. alia Oct. 1st. Fever exacerbated with chill towards evening, and has continued all night. B. free. P. 100, small. Pain gone. Contr. Pil. ut Haust. Ung. Hyd. ℥ss., in axillas, nocte mane. que 2nd. Remission B. slow. P. 92. Sulph. Magnes. ℥iv. Contr. alia. 3rd. No exacerbation Ap returning. P. 92, small. B. rather confd. Calom. g. vi. stat.; et Meridie, Sulph. Magnes ℥iv. Contr. alia. 4th. No exacerbation. B. free. P. 84. moderate. Haunt. Sulph. Quinin. 3 g. g. hora. Contr. Ung. omit. alia. 5th. Mouth not sore. Ap. returning. Reptr. Pil. g. g. nocte, Contr. quinin omit. alia 6th. Apyrexia, Contr. 9th. Convalescent. 18th. Discharged.

No. 4 J. C. Ætat. 29. Healthy habit. Admitted 31st December, 1835. Vesp. Complains of acute headache and general soreness, together with a feeling of cold and shivering. Skin warm. T. loaded. Thirst. Anorexia. B. confined. P. 120, oppressed. The above commenced yesterday. V. S. ad. ℥ xii. Pulv. Purg. Solat. Tartarizat 2do. g g. h. ℥ jj. January 2d. B. freely moved. Headache continues. Skin dry and burning. Thirst urgent. P. 96, firm. V. S. ad. ℥ viii. Cal. gr. iij. c. Pulv. Ant. gr. iij. et. op. gr. ss. ter in dies. Haust. Salin. Diaph., tertia, g. g. h. 3rd. Crassament of blood adhering to vessel all round, and covered with a thin buffy, layer. Headache gone. B. free. P. 78. 4th. Fever exacerbated at 7 P. M. with shivering; headache returned. T. loaded. P. 100, firm and vibrating, Resp. distressed Hirud xii. tempor, Sulph. Magnes. ℥iv. Contr. Pil, et Haust. 5th. Remission without sweating. complains of a numbness over his eyebrows, T. clearing. B. free. P. 76. Sulph-quinine, gr. ij. 2da g. g. h., dum remission, perstat. Exacerb. reptr. Mid. ut. hori. 6th. Exacerbated at 3 p. m. with shivering. Headache violent. Brow wrinkled. Skin warm and dry. P. 96, rather firm. Hirud viii, temp. Aber. Capil. et Applr. Lana Fugid. Sulph. Magnes. ℥jj. Ung. Hyd. ℥j. in Axillas nocte mane. que Contr. Pill et Haust. Vesp. Leeches bled very freely. Head much relieved. Skin hot and burning. P. 120. Decubitus on side. Contr. 7th. Remission, Pulse 78, moderate. Reptr. quinin ut. antia Contr. Ung. Hyd. Intr. alia. Vesp. Remission continues, Contr. 8th. Felt rather chilly in the night, followed by some increase of heat and thirst. Headache returned. P. 96, firm. Intr. quinin, Alia. ut. Antea. Vesp., Complains again of the numbness over his eye brows, and short dry cough. P. 96. Features composed. Decubitus on side, Cont. Ung. Pil. et Haust. 9th. Remission. P. 80, soft. Reptr. quinin, ut. Antia, omit. Alia mnia. 10th. Sulph. Magnes, ℥jj. Contr. quinin L. C. 11th. Mouth not affected, Apyrexia. Contr. quinin. 12th. Convalescent, Contr. quinin, ter in dies H. C.

GASTRO HEPATIC.

No. 5. G. W. Ætat. 35. Sanguine temperament. Healthy. Admitted at 3 P. M. 14th November, 1835, complaining of headache and other pyrexial symptoms. T. white. Thirst urgent. B. slow. P. 80, full. V. S. ad. ℥ xii. Cal. gr. x. c. Pulv. Jalap. C. ℥ss. Haust. Cath. duabus horis postea. 15th. Passed a good night. P. 68. Nil. 16th. Headache returned in the night. Skin hot. T. white. Thirst. B. not open. P. 78, moderate. Pulv. Purg. ut. antea. Vesp. Vomited 2 hours after the powder. B. not moved. P. 80. 17th. Bowels freely moved in the night. T. white. P. 78, soft. Pil. Hyd. et Pulv. Rhei. *à à* gr. iij. bis. in dies, Infus. Amar. ter in dies ℥ jjj. 18th. Fever exacerbated at 2 P. M. with vomiting. Complains of nausea and headache. Skin warm and dry. T. furred. Thirst, Anorexia. P. 96, moderate. No abdominal fulness nor tenderness. Hirud. xii. Epigast. Cal. gr. iii. Pulv. Ant. gr. iv. et. op gss. ter in dies. Haust. Salin. Diaph. 3i. g. g. h. 19th. Nausea relieved after the leeches. Sk. cool, rather moist. T. tolerable. P. 104, small. Sulph. quinin. Exacerbative Reptr. Pil. et. Haust. ut heri. 20th. Fever exacerbated at 2 p. m. and has been very severe all night, accompanied with delirium. Sk. now cool. T. furred. P. 120 small. Aspect stupid. Eyes jaundiced. Abradr. Capil. Lana. frigida. Capiti. Empt. Lytta. poster. nuch. Ung. Hyd. ℥i. in axilla. Rept. quinin. ut. heri. Noon. Fever has again slightly exacerbated. Head more confused. Eyes yellow. Resp. clear. Ab. in appearance natural. Epigast. rather resonant. P. very quick and indistinct. Omit. quinin. Reptr. Ung. Hyd. et. contr. Alia. Vesp. Blister has risen well. Lies in a semi-comatose state. Sk. of extremities, cold; of trunk, warm, and dry. P. at heart, by Stethoscope, 144: at wrist, not distinct. Abdomen tympanitic. 21st. Died at 4 A. M.

Antopsy, 10 A. M. No emaciation. Sk. and eyes quite yellow. Abd. tympanitic. Head: a few ounces of serum in ventricles. Thorax: contents healthy. Abdomen: liver large, dark colored and softer than usual. Spleen, nearly black and extremely soft, and lacerable; stomach of a pink tinge, and mucus membrane of great curvature, thickly streaked with dark red lines and spots. Same appearance in different portions of small intestines.

No. 6. G. A. Ætat. 32. Sanguine temperament. Healthy. Admitted 27th Nov. 1835. States that two mornings ago he was seized with a feeling of cold and shivering, which lasted about half an hour, and was succeeded by increased heat. Now perspiring. T. furred and tremulous. Thirst Anorexia. B. confined. P. 120, full and soft. Stat. Cal. gr. vi. c. Pulv. Jalap. c. gr. xx. Meredie Magnes. Sulph. ℥iv. Noon. Shivering returned at 10. Sk. now warm and dry. Hands tremulous. P. 144, small. Pil. Hyd. gr. iv. et open gr. i. ter in dies. Haust. Salin. Diaph, 3 g. g. hora. Ung. Hyd. ℥i. in Axillas, bis in dies. Vesp. Has again been perspiring. Feels much better. Sk. cool. P. 100, of moderate force and volume. Contr. Pil. et Ung. Haust. p. v. n. 28th. Shivering returned at 7 P. M., followed in half an hour, by increased heat; and in the night, by partial sweatings. Skin hot and dry. T. loaded and tremulous. B. open. U. scanty, and high colored. P. 124, pretty firm. Abd. natural in appearance and full; but on percussion, tenderness is evinced in Epigas. Hirud. viii. Epigast, et. Fom. Calid Contr. Pil., Haust. et Ung. Noon. Leeches are very small, and more were applied than ordered. Six or eight ounces may have been abstracted. He feels much relieved, but complains of faintness, and great thirst. Skin warm with a degree of moisture. P. 120, soft and small. Vesp. has been perspiring occasionally, but no regular sweating. Skin warm and moist. P. 120. Contr. 29th. Had a short shivering fit in the night. Feels better, but very weak Skin warm. T. loaded, rather dry. Less thirst. B. not open. U. scanty. P. 100, small. Some tenderness again in Epigast. Fom. Calid. Epigast. Sulph. Magnes. ℥iv. stat. Contr. alia. 2. P. M. No shivering, but has felt very hot all day. B. moved three times. P. 114, full and soft. Contr. 30th. Felt chilly in the night. Skin moist. B. slow. P. 90. Mouth not affected by the mercury. Sulph. Magnes. ℥iv. stat. Dec. 1st Apyrexia. P. 78. Sulph. quinin gr. iij. ter in dies. 2nd. Convalescent.

Though these cases have already gone to an extreme length, I would yet farther trespass, so as to illustrate some points connected with the mercurial plan in the gastro hepatic. For brevity's sake, however, we shall omit the detail of treatment, and such parts of the cases as do not bear on the point. The first will also shew the effect of V. S. which was carried to a greater extent in it, than in any other of the constitution.

No. 7. T. L. Ætat. 34. Stout habit. Admitted 26th October, 1835, 11 A. M. admitted with Pyrexia, which was ushered in yesterday morning with rigor and headache. P. 90, full. Vesp. headache relieved for a time by V. S., but is again severe. Skin dry. Alternate chills and flushes all day. B. not moved. P. 96. 27th. As the headache was not relieved by the leeches, V. S. to 12 oz. was repeated. P. 80, beating with force. B. moved twice. Vesp. No return of chill. Skin cool. B. free. Slight headache. 28th. Excaberated at 2 A. M. with chill. T loaded. P. 90, rather full. Vesp. Remitted at 11 A. M. B. free. P. 80. 29th. Remission continues. P. 86, soft. T. furred. Thirst moderate; countenance jaundiced. 30th. Excaberated at 9 P. M. P. 90, rather full. Vesp. Remission. P. 82. 31st. Gums tender. No exacerbation. P. 76. Vesp. Excaberated at 10 A. M. with chill, headache and pain, in loins. Skin hot. P. 98. Nov. 1st. Fever remitted at 10 P. M. Thirst continues. P. 90. Vesp. No return of fever. Skin moist. B. free. 2nd. Restless and slightly delirious all night. Countenance anxious. Skin of an orange color. T. furred and dry in centre. moist at edges. B. moved three times. P. 80, small and very compressible. Vesp. Some increase of heat about mid-day. Skin still hot. P. 78. 3rd. Remission. P. 80. Sulph. Quinin, gr. jjj. g. g. h. febre absente. Vesp. Exacerabated at 8 P. M. with chill. Skin hot and dry. P. 90. 4th. Fever remitted at midnight. P. 80. Sulph. Quinin ut heri. Vesp. Exacerbated at noon. P. 92. 5th. Apyrexia. Sulph Quinin. 6th. No excaberation, apyrexia. P. 78. 7th. Convalescing. 13th. Gradually improved; mouth very sore, and ptyalism profuse; countenance bloated, and of a yellow tinge. 22nd. Mouth still very sore, contr. quinin. 29th. Convalescent.

No. 8. G. B.—Admitted 26th October, 1835, * * * * Nov. 6. Mouth sore. Sputa tinged with blood. P. 80, firm. Haust. Aper. stat. 7th. Convalescing. Salivary discharge free. Haust. Aper. p. r. n. 16th. Copious Ptyalism. B. regular. Ap. good. 22nd. Had a shivering fit for about an hour yesterday afternoon, not followed by heat. Countenance bloated and jaundiced. Apyrexia. B. open. Sulph. Quinin, gr. jj. 2 dis. horis. 23rd. About 7 P. M. yesterday was seized with a feeling of weakness, followed by profuse perspiration. Mouth getting well. B. open. Pil. Hyd. et Pulv. Rhae. *à à* gr. iv. g. g. n. Haust. aper mane, p. r. n. Contr. Quinin. 24th. No return, Contr. 28th. Convalescent. Haut. aper. amar. alterna, g. g. mane, Contr. alia. Dec. 4th.

Felt chilly last evening, and perspired profusely in the night. B. open. T. clean. P. 84. Decoct. Ancham. c. Sulph. Quinin. 8th. No return. 13th. Omit. med. 18th. Convalescent ward. 30th. Discharged.

GASTRO-ENTERITIS.

By this is meant inflammation, or at least a highly irritated state of the lining membrane of the stomach and small intestines, as indicated by abdominal tenderness, fullness, and unnatural resonance, accompanied by vomiting, by diarrheœ, or by both ; or the reverse, costiveness ; and differing from dysentery chiefly in its seat, though it must be admitted, unlike that disease it seldom presents very conclusive evidence of inflammation after death ; but this may depend upon the organs affected being more essential to life. The colon, an organ of waste, will of course long bear a degree of disease, which would be incompatible with life in an organ of supply, and particularly such organs as the stomach or small intestines. Whether an inflammation or not, however, it is best to contemplate it as such in a practical point of view, as it presents similar symptoms, and is benefitted by a like treatment.

The number admitted, it is impossible accurately to fix, for having no such disease in our official nomenclature ; they have necessarily been distributed amongst others, particularly Enteritis, (inflammation more or less of all the coats of intestines,) diarrheœ and dysentery. Perhaps twenty or so, however, may be about the mark.

To enlarge more upon this head after what has already been said of it under fever, would be superfluous. We shall, therefore, merely subjoin a case or two in illustration.

No. 1. April 29, 1835—D. H. Ætat. 37. Delicate frame. Has been ailing for some time ; complains chiefly of flatulence ; aspect sickly ; skin cool. T. slightly coated ; ap. indifferent B. regular. P. 72. Pil. Cath. No. 2 stat. Mist. Aper. Amar. c. Sulph. Magnes. ℥i. ter in dies. 30th. B. freely moved. Flatulence continues. Pil. Hyd. gr. ii. c. Pulv. Rhei. gr. iij. ter in dies. Contr. Mist. sine. Sulph. Magnes. May 2nd. Much better, B. open. 5th. Frequent dark watery motions in the night, and has vomited twice. Skin warm and dry. T. white. Thirst urgent, Anorexia. P. 94, moderate. Abd. full and very resonant, but not tender. V. S. ad. ℥viii. Hyd. c. creta. gr vi. c. Pulv. Dover. gr. jjj. ter in dies, Haust. Salin, Diaph. 3 g. g. hora. Omit. Alia. Vespere. Symptoms continue. Hirud. xii. Ab. et. Fom. Calid. Ung. Hyd. ℥j. in Axillas, nocteque mane. Contr. Alia. 6th. Fœtid watery purging all night. No pain, griping nor straining. P. 130, small ; great prostration and thirst.—Physical Signs : margin of false ribs, high and arched. Thoracic resonance on right side to space under 7th cartilage; abdominal form ; cartilaginous border of false ribs, same side. Heat over Abd. not perceptibly greater than over Thorax. Fulness and increased resonance but no pain. Stat. Cal. ℥j. c. opio. gr. jj. Lana. c. Spt. Terebinth et. Tinct. Opii. Ab. Emena Anodyn. meredie. S sit. Contr. Ung. Hyd. et. Haust. Vesp. No abatement. Skin bathed in cold perspiration, P. upwards of 120, and very small. Great prostration.

1. Reptr. Cal. et. opii. Emplast. Lyttae, Abd. duabus horis, dein, Cataplas. Emol. Enema Anodyn. p. r n. Cras. mane, Ol. Ricini ℥iv. Cont. Ung. Hyd. Small quantities of wine at intervals. 7th. Diarheœ continued all night. Motions green and watery. Now moribund, Nil. Died during the visit.

Autopsy 11 A. M. Not emaciated. Liver pale yellow, and easily torn. Gall bladder half full of bile, and the parts in its vicinity, deeply tinged with it. Stomach contained a quantity of fluid mixed with castor oil (the former chiefly barley water ;) its mucus membrane towards pyloric extremity thickly set with dark red stellated points. Small intestines contained an immense quantity of green fluid like a mixture of bile and water ; and their lining membrane here and there exhibited the same appearance as stomach. Large intestines contracted, dark colored and pulpy, particularly at segmoid flexdre. Bladder empty and contracted.

No. 2. T. J. Ætat 30. Healthy habit. Admitted 5th June, 1835. Has been vomiting and purging ; and now complains nausea and pain at epigastrium, increased on pressure. Skin cool. T. deeply furred and chopped. Thirst. P. 100, small. Abdomen full, and very resonant. Hirud xxxvi. Epigast et. Fom calid. cal. gr. xx. copio gr. ij. states. et mudie. Ol. Ricini, ℥iv. Vespere, Reptr. cal. et. op. 6th. Motions frequent and watery, but without straining or griping. T. clearer. P. 92 moderate. Ol. Ricin. ℥iv. stat. Pil. Hyd. et. Pulv. Rhae. *à à* gr. iij. ter in dies. 7th. Only one motion, and of nearly natural appearance. Apyrexia. Contr. Pil. Hyd. et Pulv. Rhae. 8th. Again complain of pain at Epigast. Skin cool. T. white and chopped ap. bad. B. moved twice in the night. P. 68. Hirud. xviii. Epigast. Sulph. Magnes. ℥ jj. stat. Contr. Pil. Hyd. at Pulv. Rhae. 9th. Feels quite well, T. still white and chopped. Apyrexia. Contr. Pil. Hyd. et. Pulv. Rhae. g. g. nocte, mist. Aper. Amar. ℥jj. ter in dies. 10th. Convalescent.

A CASE OF SNAKE BITE SUCCESSFULLY TREATED BY BLOOD LETTING AND COLD EFFUSION.

By P. Baddeley, Esquire.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—In the afternoon of the 15th of Aug 1832, a servant of Lt. B. Hart was bitten in the heel by a snake ¼ of an hour after I saw him, he then complained of pain, shooting up his leg, which continued to increase rapidly; took a dose of liquor ammonia and æther. In 20 minutes he was prostrate and perfectly insensible; frothing at the mouth, and breathing slowly and laboriously; pulse full and strong; eyelids open, and balls turned upwards. I bled him instantly, and blood flowed in a full stream, and of a perfectly florid colour, with a strong impulse from the artery beneath; 15 ℥ were abstracted and his respiration became much easier; he was then deluged with cold water, immediately after which he sat up, and in the course of 10 minutes walked home with the assistance of 2 men; during the night, the vein opened anew, and he lost about 8 or 10 ℥ more. The following morning he was well, complaining only of a slight pain in the wound, which was ædemotous, a poultice was applied and the next day the man was about his duty.

In most cases of snake bite, the symptoms so much resemble entonic apoplexy, that it would appear that the poison acts by violently exciting the arterial system through the medium of the nerves and producing death by effusion in the brain.

Should this be the fact, stimulants must have a pernicious tendency, and contribute to hasten the fatal catastrophe.

15*th March*, 1836.

CLINICAL CASES WITH REMARKS.

By K. Mackinnon, Esq., M. D.
Assistant-Surgeon.

LITHOTOMY.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—I have reason to think that calculus is a more common disease in this district at least, if not over all India than has usually been supposed, since I performed the operation in March 1835 on the boy named Barossy, I have had four other patients brought to me, on two of whom I have operated successfully, and the other two cases shall presently be adverted to.

Case 1st.—This boy named Bheroo, of the gwala caste, is from the immediate neighbourhood of the station; when brought to me in October last he was about 6 years of age. The symptoms were much the same as usual. The rectum protruded occasionally when the fits of pain and spasmodic action were very severe. I made several examinations of the bladder with the sound ere I detected the calculus, but having at last succeeded, I performed the operation on the 14th October.

In this case the transversalis perinei artery was divided, which I secured by ligature. The other steps of the operation require little description; the stone, a pretty large one, was quickly extracted and the little patient put to bed.

There was a good deal of bleeding from the wound after the operation, which came with the urine, and I could not detect a hæmorrhage from the superficial scite of the divided artery, though I must candidly state that I only tied one end of the divided vessel from which only however there was hæmorrhage. These cases of hæmorrhage in this operation are puzzling. if you cannot get at the artery with the tenaculum, or with a pressure that acts quite locally without plugging up the wound; it is better I think to leave the bleeding to nature so as to avoid one of the chief causes of fatal termination in Lithotomy, viz., infiltration of urine into the cellular substance.

In a case of this kind the tube recommended by that eminent Surgeon, Mr. Liston, to be kept in the bladder for 24 hours, would be doubly useful. It would admit of the free passage of the urine and of the compression of the bleeding surface at the same time.

In the case in question I never considered the bleeding serious enough to cause alarm and if the coagula had checked the free egress of urine, I should have removed them by the finger; but this was not the case, and the boy made a rapid and complete recovery. The next case was in a boy abont 8 years of age, in whom also I experienced great difficulty in detecting the stone. I have read of the facility of detecting the stone through the rectum; in these cases I failed to do so, though I pressed too over the pubis. But this stone too was detected at last, and the operation was performed on the 18th of February at 33 minutes before one; I made the outer incisions carefully so as to insure their being in the proper direction and to avoid the rectum, before passing the scalpel on left, some doubt arose that the staff which was larger than the one I usually employ had got to the bladder. I therefore satisfied myself on this point by withdrawing it and passing it on again, getting into the groove of the staff, with my armed scalpel I passed it on, but it did not freely progress nor did a jet of urine to any extent follow the cut. I passed my finger to see how much of

the urethra had been divided. The knife had just cut the neck of the bladder and no more. I tried to pass on the knife again along the groove, but it would not pass without unwarrantable force. The groove of the staff was badly made ; I then withdrew my staff and again passed my finger, intending to enlarge the opening with the bistoury, but the opening into the bladder would not admit my finger. I now took a smaller staff ; the one I had used in my former operation along which I passed a bistoury, with which I very carefully enlarged the wound in the neck of the bladder and causing an assistant to withdraw the staff, I passed my finger a third time and enlarged the wound upon it. A free gush of urine followed ; the stone we now felt and the forceps being passed I attempted to grasp it ; and after some little delay, but without having made use of the slightest force, it was brought away. The operation lasted 10 minutes. The calculus is of the mulbery kind with a dent on one side,upon which, however, the little projections are quite entire. The bladder was cleaned out with a syringe, the poor little fellow unbound and put to bed.

2 P. M. Complains of some pain in the region of the bladder; urine flowing by the wound. To have 5 drops laudanum.—5 P M. he had a sound refreshing sleep ; the pain has left him.

This little fellow had not a bad symptom, and what was strange, there was at one time on the 2d day a free passage of urine by the natural outlet. This alarmed me at the time, for it led me to fear that the wound must be artificially blocked up.

Had any bad symptoms appeared, I should assuredly have passed my finger or a gum catheter into the wound to clear the obstruction. Keeping the wound in a state to give a free passage to the urine, is one great maxim in the after treatment, another to watch the constitutional symptoms, and when you can find no local cause for them, you must try to check them on general principles.

In the next case of stone which I have to mention, the boy's father would not consent to an operation. I dare say he will yet return for the purpose. In the next case which occurred a few days ago, a boy was brought apparently with all the symptoms of stone in the bladder, but while passing the sound for the first time, I discovered great constriction of the orifice of the urethra, consequent, I now learn, on an attack of phymosis with violent inflammation of the whole penis. On the stricture being dilated, the urine flowed freely and without pain, but the cure was not complete nor was I yet satisfied that the bladder was free from disease, when during my absence for one day, the father took the boy home ; these and many more annoying circumstances are the grievances we have to meet with in native practice, but are these to make us stop in the career of doing good ? assuredly not—for we meet with an abundant reward. Must the call upon an enlightened government to come forward in a cause like this be in vain. I hope,I trust not ;—there is lying in this treasury now a sum collected from ferries and court fines, and which has been so lying for four or five years,the interest of which, if put at the disposal of the authorities, would suffice to establish an hospital in which thousands of suffering wretched might be relieved without the calls upon his purse and his patience which a Civil Surgeon has now to submit to. I shall in my next paper give you as formerly promised the particulars of the case in which a man was thugged and his life afterwards saved by the gang of miscreants having cut his throat.

Tirhoot.

REVIEW.

MED. AND PHY. TRAN., VOL. VII. PART II. 1835. CALCUTTA, THACKER AND CO.

Account of an Aceto-Spirituous Tincture of Cantharides. By D. S. Young, Esq.

On the effects of the Aceto-Spirituous Tincture of Cantharides. By W. Twining, Esq. *presented Feb.* 7.

Report on the Liquor Lyttæ. By D. Stewart, Esq. M. D. *presented Feb.* 7.

The advantage of obtaining immediate counter irritation in many diseases needs not to be dwelt upon, and nothing hitherto, saving the painful and terrific application of actual cautery in various shapes, has supplied the desideratum. The paper we are now about to review communicates a more safe, convenient, and effectual application. It appears that Mr. Young two years previous to his communication, had been in the habit of using an Aceto-Spirituous Tincture of Cantharides as a substitute for the emplastrum Lyttæ ; he had obtained from Mr. Snowdon, of the Haymarket, a few ounces of Liquor Lyttæ with the following memorandum.

" The Liquor Lyttæ is an Aceto-spirituous Tincture of Cantharides, and will be found to be a good substitute for a common blister."

Mr. Young received no formula, but very fortunately succeeded in preparing it himself as follows.

" Take of concentrated acetic acid, nine ounces.

Rectified spirits, three ounces.
Spanish flies four ounces.

The Spanish flies to be coarsely pounded, and put into a wide-mouth glass-stopper bottle, when the acetic acid and rectified spirits are to be added. Let the whole digest for five days exposed to the sun, be then strained through flannel, and kept for use. The quantity will be about eight ounces.

14. The modus operandi appears to be simple, and may be explained thus:

The immediate effloresence of the skin is in all probability produced by the acetic acid, a highly inflamed surface is thus presented to the action of the Cantharides, by which its operation as a vesicatory is expedited.

15. I am led to this view of the matter, from having applied the concentrated acetic acid to the skin,—it produced an efflorescence, which terminated in simple dry desquamation of the cuticle.

16. In conclusion, I may be permitted to state, that Apothecary Peacock had a supply of the Liquor Lyttæ given to him when on detachment duty near the Kistnah, the Cholera broke out in camp, and he describes in his reports, in strong terms, the great benefits derived from the application of the remedy in many cases of the epidemic, from the rapidity with which vesication was produced."

Mr. Twining has stated that the Accto-spirituous Tincture of Cantharides had been employed in sixteen cases at the General Hospital. It acted as a rubifacient if quickly brushed over the skin, and when it was freely wetted with the tincture and rubbed for the space of three minutes, a perfect vesication was formed in about two or three hours. Mr. Twining added a fact of infinite importance in clinical practice, viz., that the blister had been in all cases more complete, and contained more serum than that produced in twelve hours by the Emplas Lyttæ. It can be more exactly confined to the spot, the margin of the vesication being well defined, the whole of the article more generally removed, and a more prompt and free suppuration takes place than results from the application of common blistering plaster. The pain from the use of the tincture is however more severe but transient: one in sixteen cases was affected with irritation in the urinary passages. The great advantage of the tincture is, that it requires no binding, which is of importance in the treatment of children and of adults laboring under delirium, &c. Dr. Stewart tried this fluid in six cases, by means of a dossil of lint.

ART. II. CASES OF COLICA PICTONUM WITH OBSERVATIONS, BY D. STEWART, ESQ., M. D. PRESENTED DEC. 4.

Several seamen entered the Hospital at Howrah, complaining of Colica Pictonum; out of six cases, one of the first who was admitted, died: the following was the result of the examination of the body.

"A considerable serous effusion was found under the tunica arachnoidea, and in the ventricles.

The cerebral mass itself was not particularly vascular; the membranes at the base of the brain were greatly congested, though none of the products of inflammation were there perceptible.

The small bowels lay coiled in a ball, pale, empty, and contracted, covered by a thin transparent healthy omentum. The mesentery and its glands were perfectly natural. The colon throughout was enormously distended, very thin, of a dark leaden colour; in several places it was partially crossed by narrow bands of white intestine, which never quite surrounded it: a portion of the ascending colon, of about three inches long, had one-half of its cylinder of a natural colour and thickness, while the opposite half, bulged out like an aneurismal bag, was quite thin, and of a dark leaden colour."

Now the result of this examination is of very great importance, settling in a great measure the question that colica pictonum is according to M. Rangue, Med. en Chef de l'Hotel Dieu, d' Orleans, originally and commonly an affection of the nervous apparatus of the elementary canal; and that it affects other parts of the system consequetively. Dr. James Johnson believes that the disease may run its course without materially or evidently affecting the vascular system. In the sixth case, however, which Dr. Stewart narrates, he suspects inflammation.

"No. VI.—A lad was admitted from the same ship on the 20th of the present month, suffering severely from colic pains, like the others, chiefly attacking him at night; the greater part of which he passed in bed upon his knees, the only position which gave him relief: he had a hard retracted belly, pains in the back and limbs, no head-ache, a dry foul tongue, and a pale sallow countenance.

The bowels were obstinately costive, and common enemata had no effect. The case differed from the others in the existence of an acute pain along the ascending and descending colon, felt upon pressure with the points of the fingers, although greatly relieved by pressure with the flat hand. The pulse was not affected.

Concluding from this complication of symptoms, that besides the specific effects of

the poison upon the muscular coat, there existed a distinct inflammation, confined to the peritoneal coat of the bowel, twelve leeches were applied on either side, and repeated after six hours; Calomel in small doses, with Ipecacuanha, Aloes, and Hyosciamus being given every hour meanwhile. Next day copious evacuations were procured, by injections and Senna mixture; after which, the usual draughts were given to recruit the health and restore the tone of the bowels.

If a pathological deduction may be drawn from such scanty premises, may we not consider the appearances on dissection of Case No. I. and the symptoms in No. VI. as strikingly corroborative of Dr. Abercrombie's views of the nature of Ilius;—are we not also justified, by the evident good effect of depletion at the outset, and powerful effect of the saline laxatives afterwards, in concluding, that the disturbance of the nervous functions, the cerebral lesions, the violent pains, the loss of muscular tone in the bowels, &c. are primary effects of the poison, and not consecutive, or sympathetic, merely of the alimentary affection?

This supposition is strengthened by the fact, that in all recorded death from Colica Pictonum morbid appearances have been found, in the cerebral structure, and that the deaths are usually sudden; and consequent upon some apoplectic or epileptic seizure."

Dr. Clutterbuck thought that the affection was not simply spasmodic contraction of the intestines, from its dissimilarity to what takes place in Ilius or spasmodic colic. In the latter case the constipation being removed, the complaint in general is also instantly removed, and it most commonly goes off with a copious evacuation. In the colica pictonums, the evacuations, when effected, are always sparing and the relief obtained is of very short duration. A fresh accumulation of fœces immediately begins to take place, and distention and pain in a short time succeed. This character of the disease was particularly marked in Dr. Stewart's first case.

"One ounce of turpentine and the same quantity of castor oil was given: the head was shaved, and kept cool. Stimulant embrocations were employed for two hours along the spine, and one or two domestic enemata were administered. In the evening, no stool having been procured, the belly being distended, an infusion of 10 grains of tobacco in six ounces of water was thrown up, into the head of the colon, by means of the long flexible tube of Read's patent syringe, and repeated twice, with half an hour's interval. This was followed by copious, green, feculent, and mucous discharges, with much disengagement of wind; but the abdomen was not reduced in size.

A severe paroxysm of colic came on about 9 P. M. and was soon followed by violent convulsions of the limbs, and high delirium."

It is highly important that we should possess a clear view of the proximate cause of the affection, as it leads to important deductions as regards the treatment which, as adopted by our author, was remarkably successful. We shall quote the treatment of case the second as an example of the rest.

"No. II.—The second case was that of a boy who had a fit of some sort on board, and was bled; after which, he was sent into hospital. Besides the usual symptoms, viz. nightly paroxysms of colic, obstinate costiveness, pains in the loins and limbs, he had a large flabby tongue, thickly furred, and paralysed on one side. How long it had been so I could not ascertain. Fifteen leeches and a blister were applied to the nape. The tobacco injection was the first thing to procure alvine evacuations; an opiate enema was administered at night; and the only medicine afterwards given was the following draught, three times a day:

R. Ferri Sulphat.
Quininæ Sulphat. ää gr. 1½.
Magnesiæ Sulph. ℥ ii.
Tinct. Sennæ ℥ ii.
Acid. Sulph. Dilut. gtt. xii.
Infus. Gentian. ℥ x. Ft. Haustus.

Under the continued use of these simple draughts, and an embrocation along the spine, for eight days, copious evacuations were procured daily: his tongue gradually grew clean, and recovered its functions; his bloated sallow appearances went off, and his general health and appetite improved."

The above management shews clearly that the disease had nothing to do with inflammation. We may, to substantiate the position, state that Dr. Roberts* found nitrate of silver very powerful and capable of overcoming both the cause of the spasmodic contractions and the consequent paralysis attendant on colica pictonum.

An important part of the paper now before us is an inquiry into the cause of these attacks of colica pictonum. Dr. Stewart, with a zeal and perseverance highly creditable to him as the medical attendant, discharging his duty faithfully to his sick, took the most effectual method to find it out: he observes.—

"The patients were part of the crew of a vessel lately from England, who during their voyage to Madras, a period of about four months, had lived upon salt-meat, which was transferred once a fortnight, from the barrels

* Med. Trans. Roy. Phy.

in which it was stored, into a large leaden tank, from which the daily rations were served out.

The tank is said to have been carefully cleaned out on these occasions; but a crust of white-lead was always found to have accumulated in the intervals.

From the date of arrival at Madras, until the time here, when the sickness became general, eight or nine weeks elapsed; and, as I understood from the surgeon of the ship, twenty cases of violent colic came on nearly at the same time—nine of which have proved fatal. For several weeks previous, a general unhealthiness of appearance had manifested itself among the crew; and sickness characterized by irregularity of bowels, headache, lethargy, loss of appetite, &c. was general; but the probable cause was not once suspected, until a case of marked colic occured, which was not until eight weeks after the vessel's arrival at Madras.

From that period, (their arrival at Madras,) very little of the tainted meat was used, and the crew, under the command of a most humane captain, had a plentiful allowance of fresh meat and vegetables *daily*.

The fits of colic generally came on at night, with violent spasms of the lower belly, shooting down the inside of the thighs and legs, sometimes affecting the chest and loins; generally also some degree of head-ache was acknowledged, though not complained of; the principal nervous symptoms being anxiety of countenance, low spirits, and lethargy. Costiveness was an invariable symptom; and I believe *all* the worst cases proved fatal with convulsions."

We further learn from a late discussion at the Medical and Physical Society's Meeting, that Dr. Stewart visited the ship, and upon inspecting the leaden tanks into which the salt junk was wont to be transferred once a fortnight, for ready daily use, he had observed on the inside of each, at the level mark of the brine, a pretty broad white belt, and upon enquiry, received a distinct acknowledgment by the chief officer, that upon occasions of emptying and replenishing the tank, a considerable encrustation of a white powder had frequently been discovered just at the line where the brine coming in contact with the external air was most sure to act upon the lead and oxydize it. Here then was "palpable evidence" of the fact of white lead having been mixed with injesta of the crew during the voyage. Mr. Twining, as will be seen by his paper, of which some account is given in the discussion, instead of taking a similar course to that pursued by Dr. Stewart to ascertain the cause, had recourse to a series of experiments to ascertain whether water, brandy, or arrack, &c. became impregnated with lead. We are astonished that Mr. Twining should have been so little acquainted with the writings of others as not to know that repeated experiments had proved the facts he then employed his valuable time in endeavouring to prove. It has been repeatedly shewn how easily water, syrups, and brandy become impregnated with lead, as well as food cooked in leaden vessels, &c. We have given an interesting paper, dated Oct. 1835, on Colica Pictonum, which will be found among our selections.

THE INDIA JOURNAL
OF
MEDICAL AND PHYSICAL SCIENCE.
Calcutta : June 1, 1836.

FEVER HOSPITAL—AN APPEAL TO THE GOVERNMENT.

While we admire the benevolence which actuated the distinguished Individuals who attended the recent meeting held at the Town Hall for the purpose of establishing a Fever Hospital, we feel it our duty to dissent from the resolution carried on the occasion, viz., to appeal to the European community for the pecuniary aid required. Because such a measure instead of tending to relieve the necessities of the sick poor natives of India, we contend that will tend to prevent the adoption of the only means by which the important and humane end in view can possibly be attained. Our survey of the necessities of this description of people is not limited to the few found in the capital of India, but it is extended to the vast population, the millions subject to the British rule; a power which is at present reaping the harvest without allowing the poor and the destitute to glean even the smallest quantity of corn which may fall from the rich and abundant sheaves, and exhibiting an indifference to the rights of the destitute, which we have in former articles on this subject not only asserted, but proved by appeal to laws human and divine.

But let us examine more minutely the probable result of the resolution carried at

the meeting held at the Town Hall—"That the committee appeal to the European community for such assistance as may suffice to form a fund, the interest of which would furnish means of renting a building suited to the purposes of a Hospital.*" To raise such a building by such means would be in our opinion to tell the people of India that the gratuitous assistance to be derived from the European community is the only resource the sick poor have to look to in this country. Let us then turn to official documents now on our table, taken from the report of the select committee of the House of Commons. We shall first solicit attention to an abstract of the extent and population of British India, and of the extent of the allied or protected states so far as the same has been ascertained.

—	Extent in Square Miles.	Population
Bengal Presidency: Districts of the Population of which statements have been received:		
Lower Provinces..	153,802	37,503,265
Upper or Western Provinces.....	66,510	32,206,806
Fort St. George Presidency.....	141,023½	13,508,535
Bombay Presidency: Districts of the Population of which returns have been received..	59,438¼	6,251,546
Prince of Wales' Island, Singapore, and Malacca	1,317	107,054
Total..	422,990¾	89,577,206
Territories of the Population of which no accounts can be traced:		
Under Bengal	85,700	No census.
Under Bombay ..	5,500	No census.
Total British Ter.	514,190¾	—
Add, Allied or Protected States	614,610	No census.
Grand Total: Extent in Square Miles of British Territory in India, and Territories protected by Great Britain	1,128,800¾	—

East-India House, Sept. 14, 1831. THOS. FISHER, Searcher of the Records.

* Englishman May 9th.

Now, then, there is a population of 89,577,206, the sick poor of whom are made to depend upon the European community, the extent of which, excepting civil and military, is thus given from official documents.

A Return of the Number of Europeans in British India, not in the Service of His Majesty, or of the East-India Company; distinguishing those residing within the Presidencies of Bengal, Madras, Bombay, and each of the British Settlements within the Straits of Malacca, respectively, on the 1st of May 1814, and on the 1st of May 1830, as far as can be made up.

There are no official Returns at the East-India House from which an exact Statement can be prepared of the Number of Europeans resident at the several Presidencies of India on the days stated. The following Statement, which has been compiled from the best Authorities which could be referred to, chiefly from Almanacks published in India, will afford some information respecting the comparative numbers of the Europeans resident at the several Presidencies in India at or about the periods referred to.

—	1815.	1828.
Bengal.....	1,100	1,595
Fort St. George	115	116
Bombay.....	240	286
Prince Wales' Island	46	19
Singapore.....	—	
Malacca.....	—	

East-India House, Nov. 1, 1831. THOS. FISHER, Searcher of the Records.

We believe there are many more European residents than shewn by the above table; but including Civil and Military, we will venture to prove that the number of those who have the means and the inclination to contribute to charitable institutions do not exceed a few hundreds. The few who do contribute to any one of the institutions are generally contributors according to their means to the whole, and it is well known that including religious societies, in no part of the world do they abound more than in India; hence the inference is that the amount they will contribute for the Fever Hospitals must be a trifle indeed, and therefore it is not to be expected they can be established according to the wants of the people even in situations where the greatest number and wealthiest European residents dwell.

But the plan has been tried, and as we have fully shown in a former number, signally failed. Now, then, we once more enquire whether the destitute native sick of the millions of the population under British rule are to rest upon such a broken reed as the resources of the European community must prove to be; such resources should in our opinion be rather reserved for the numerous sojourners and indigenous Christian poor, who crowd the streets in all the principal cities and towns throughout the country; who have no other refuge than in the pity and benevolence of those of a similar faith and creed.

We once more then implore Government to take the wants of the people into consideration, and to exalt its name by extending the means of help and of mercy to the sick—the necessitous—the decrepid, and the helpless. In a former number we referred to Mr. St. G. Tucker's opinion as to the duty of Government in looking to the wants of the people, and when we consider the value of the opinion of one of such great power and influence in the Direction, we shall be excused for once more quoting it.

"*If the public revenue should become more productive, it would be the duty of Government to repeal or reduce objectionable taxes, to increase the judicial and other establishments, so as to render justice more accessible to the great body of the people, to endow public institutions for providing better means of education, and hospitals for the care of the sick and the destitute,* * * * * which may conduce to the comfort, convenience, and well being of our native subjects."

A remark of our talented and benevolent correspondent, Dr. Mackinnon, which appears in our present number, is also worthy of being quoted here.

"There is lying in this treasury now a sum collected from ferries and court fines, and which has been so lying for four or five years, the interest of which, if put at the disposal of the authorities, would suffice to establish an hospital in which thousands of suffering wretched might be relieved without the calls upon his purse and his patience which a Civil Surgeon has now to submit to."

LECTURE

INTRODUCTORY TO A COURSE ON SURGERY.

DELIVERED AT THE ALDERSGATE SCHOOL OF MEDICINE, OCT. 4, 1835,

By Mr. SKEY.

Gentlemen,—It will be my duty in the ensuing course of lectures, to point out to you the means which we employ, in either curing or alleviating those diseases which custom has allotted to the care of the surgeon.

I presume I need hardly tell you, that these diseases are for the most part external; yet they follow that general rule not unexceptionably, or, rather, there exists a sort of neutral ground on which the external region of the surgeon is met by the purely medical treatment of the physician. I will not dilate on this topic, because it necessarily follows from the present system of practice, that the large majority of my auditors comprises the future practitioners of all classes of disease; and between myself and the accomplished physician on whom devolves the task of instruction in the department of medicine in this school, there need be no jealousy, no rivalry or difference of opinion, as regards the extent or boundaries of our respective duty. One thing is certain, viz., that the ground-work is the same, that however apparently various or distinct may be the structure, the proximate cause of disease, with some modification, is the same; and the principles of treatment can therefore but slighty differ. The practice by manipulation is however the exclusive province of the surgeon, and this includes the extensive and highly important department of operative surgery, which, *if any*, presents the most eminent characteristic of surgical practice.

A course of lectures on surgical science admits two very distinct objects of study; the first comprises the *principles* which guide us; the second, the application of those principles, known under the term of practice or treatment; and on these two subjects I beg to engage your attention for a few minutes. By principles, we understand general rules, which, although modified by circumstances, are applicable to all similar examples of disease. The principles which govern practice are based on a knowledge of life, both physical and moral; namely, physiology; but surgery demands the knowledge of the anatomist, by which alone we can detect deviations from healthy structure; and without which we cannot advance one step towards their removal. In speaking then on the subject of the principles of surgical practice, I return to those of anatomy and physiology. The first tells us the situation, form, relation, and structure, of every part subject to disease. Physiology expounds their healthy functions, and their mutual dependence on each other: we must be conversant with both. With respect to anatomy, then, how can the man who is ignorant of the healthy appearance of the human eye, determine its diseased condition? How will he distinguish the extent to which that delicate membrane

the iris deviates from healthy or normal appearance and character? How will he be enabled to pass a needle into the interior of the globe, for the purpose of displacing the opake crystalline lens, in cataract, if he be unacquainted with the size, form, and connexion of that body? Look at the numerous forms of accidents attending joints, and say if it is possible that the man who is ignorant of their natural form, and the connexion of their parts, can determine on the one hand, or attempt to remedy on the other, the accidental injury they have sustained.

There are, however, doubtless many surgical diseases, the treatment of which may be effected, without any immediate reference to the science of anatomy; but is there any that does not bear, more or less, immediately on that of pathology? Certainly none. Take the simplest form of surgical disease, an ulcer. By what means is its progress arrested? We know that in the condition of health, the arterial circulation of a part should remain steady and unexcited; its temperature cool and uniform. We find it hot, red, painful, and the vessels are unnaturally distended with blood; they relieve themselves by pouring out matter; the skin bursts; the unhealthy condition of the vessels remains; the surface fails to heal, and an ulcer follows, for there is a variety of ways in which such a malady may arise. How shall we determine the treatment? We observe the character, whether inflammatory or otherwise; we reduce the undue action of the vessels by such remedies as experience has taught us are beneficial; and, having accomplished this, we proceed to another stage of the treatment, which consists in urging nature to heal the wound. In the attempt to avert or cure disease, the importance of this branch of physiology is inestimable; I would say it is the ground-work of all medicine,—in its most comprehensive sense, a knowledge of the principles of life.

Nature has endowed the organized world, both animal and vegetable, with a principle which cherishes growth and which presides over every action of which its organization is susceptible. The same spirit, jealous of defect, controls disease, repairs injury, and by its continued influence tends to maintain the outward physical form, as well as to repair the inward defect of function to which the frame is liable. It has been called the vis medicatrix naturæ. In the language of the Latin poet,—

"Spiritus intus alit, totamque infusa per artus
Mens agitat molem et magnoso corpore miscet."

It consists in an evident and universally acknowledged effort on the part of nature, to ward off disease and to preserve life. "A spirit of health," predominating over the body, ever rejoicing in its salubrity, ever contending against injury. Need I illustrate it by examples? They are endless in variety. Why does an abscess invariably advance towards the surface, but for the purpose of discharging its contents without injury to the body? The liver would appear to possess discrimination in evacuating the contents of a similar disease through the abdominal parietes, in preference to the cavities of the abdomen and chest, to which it would have nearer access. In tubercular abscess, the large vessels of the lungs are, as it were, encrusted with lymph, lest their rupture should be fatal to life; and this effort is especially beautiful, inasmuch as the disease itself is necessarily fatal in its termination. For here we see the contention most vividly between an irremediable disease and the unremitting effort of this "spirit of health."

In the disease of bones, how beautiful, how varied are the exertions of this protecting principle, in which a bone is destroyed by a wasting disease, arresting all chance or power of reparation,—during the process of destruction, a new pillar is in process of erection by which the diseased fabric is fortified, and the limb restored to health and action! Observe the structure of artificial joints, or those from which the cartilage is absorbed; here we see the respective ends of the bone or bones carefully rounded off and polished, to simulate as much as possible the original structure. The formation and increase of large aneurysmal sacs; their temporary protection from rupture by the dense layer of coagulum by which they are lined; their evident desire (if I may so express it) for contraction and subsequent obliteration;—the contraction of the divided ends of large arteries;—the formation of accidental bursæ, for the protection of the subjacent bone, whenever the skin is subjected to continued pressure or friction;—the almost dental hardness of the gum, consequent on the loss of teeth, and the approximation of the teeth on the loss of one or more;—the inflammatory and lymph-effusing condition of a wounded intestine, by which its injured surface becomes agglutinated to the parietes of the abdomen, or to another portion of intestine, thus closing the otherwise fatal aperture;—the really astonishing co-operation of this healing, this protecting influence, with the hands of surgeon, in transmitting the contents of the intestine, along a devious track, in artificial anus, from the upper to the lower opening, and the subsequent earnestness with which the margins of the bowel unite for the purpose of restoring the integrity of the canal. Observe the analogy in this respect of vegetable to animal life. Plants are provided with muscles, by which they open and shut their flowers, and turn their leaves to the sun, even if they have been repeatedly folded back from it; the turn of a hop plant is invariably directed towards the course of the sun, and it soon dies if artificially forced into an opposite line of growth; remove the obstacle, and the plant quickly returns to its former position. When the straight branches of the honeysuckle can no longer support themselves, they acquire strength by becoming spiral; when they meet with other branches of the same kind, they coalesce for mutual support, and one spiral turns to the right, the other to the left, thus increasing the probability of their finding support by the diversity of their course. If a plant be placed in a room which has no light, except from a hole in the wall, it will shoot towards the hole, pass through it into the open air, and then vegetate upwards in its natural direction. The shoots or tendrils of creeping plants, are invariably directed towards the nearest object,

to which they cling, and the direction of the tendril may be repeatedly altered, by changing the position of the object attracting them. From these, and a variety of similar evidences of spontaneity, it has been inferred that vegetables have a limited degree of sensation and enjoyment, and that they have an inferior participation in the common allotments of vitality.

I might cite endless examples of Nature's anxiety to maintain health, by throwing off disease or obviating deformity. Now, where does this power reside? In what does it consist? The advance of time had made considerable encroachments on the eighteenth century, before the antiquated doctrines of the chemists and mathematicians succumbed to the more just and reasonable views of the *vitalists*. For this revolution we are greatly indebted to Stahl, who was forcibly impressed with the difference between the changes which the components of the body experience during life, and what would occur in the same substances under other circumstances; hence he concluded that when they form a part of a living system, they must be possessed of some additional principle, that counteracts the effects that would otherwise be produced. To the agent that thus opposes the physical powers of matter, and to which the body owes its vital properties, he gave the name of *anima*. He considered it to possess powers of a specific nature, and attributed to it a species of intelligence which enables it to act the part of a rational agent, and to superintend all our corporeal operations. Van Helmont applied to the same principle the term "Archeus."

But what are we to understand by these terms? The immediate nature of this principle, or the mode of its operation, we are totally ignorant of. It is sufficient for our present object that we acknowledge its existence, observe its influence, and obey its dictates.

I say emphatically, *obey its dictates*. We talk of many diseases in a tone of arrogant defiance of the very laws which direct our every step. Take a wound for example. The utmost limit that the surgeon can advance to, is that of bringing the margins in close contact, and keeping its surface clean, and where he fails in this end, nature is compelled to come to our assistance, and heal by new substance what with a little extra aid she would have accomplished with much more ease and readiness. What is the extent of the boast here? That of an humble and almost powerless assistant; and thus it ever must be. We must ever continue humble followers in the path of nature, and dependent on her bounty.

The first part of my duty here, then, as your intructor is, to disabuse your minds, by directing your attention to that influence and authority which you do *not possess*. Nature is imperative; she is arbitrary; her laws are immutable; she will sustain no interference, and listen to no compromise. *This* I conceive to be the first and most paramount concession to her power, demanded of the practitioners of our art, that we enter on our task prepared to watch and to obey. Let us then study her peculiarities and, as far as possible, imitate her example. It will thus be my wish to inculcate a simplicity of practice, in which consists the only true philosophy of the art of healing. We are the sappers and miners in the forces of nature. We attend her path with the view to remove obstructions—to cleanse impurities—and having accomplished this, to leave her unmolested and uncontrolled. If I dwell on this subject, it is because here I would place the gravamen of a charge against those members of our profession, who, wanting a firmness of reliance on the authority of nature, or patience in its application, intrude upon her path with an unseasonable and officious zeal, perverting her energies by the application of means subversive of her most obvious intentions.

To Mr. Abernethy, whom I am proud to have called my friend as well as my instructor, the profession owes a debt of gratitude of enforcing, both by his precept and by his example, the value of this all-important principle. "Subdue *local irritation*," says he, "and regulate the action of the digestive system, and you control all controllable disease." To him it appeared (how is it surprising that it should have done so?) the philosopher's stone of medical practice; and if I express my regret that his application of it should have been so universal, I am bound to declare that within the circle of my experience no man was so successful in the controlling influence over chronic disease as he.

I say again, study nature, assist and second her intentions, but do not attempt to lead her. The influence of remedies for the most part is but negative.

These primary principles admitted, we proceed to the theory or principles which more immeditately influence our treatment. I have already stated them as "general rules, which, though modified by circumstances, are applicable to all similar examples of disease." Now there is an obvious distinction between the theory of a disease and its treatment. By theory we understand the contemplation of, the reflecting or reasoning upon, a subject. This one would suppose an essential prelude to the treatment of all maladies, but it is not really so, inasmuch as the principles of life, or, rather, the views and objects which nature may have in contemplation in the cure of any particular disease, may not be so obvious as to obtain the unanimous concurrence of all physiologists. They may be susceptible of various explanations; whence the number of irreconcilable views taken by different authorities; and, as regards many diseases, their treatment was adopted on unknown or ill-understood data, and numerous theories have been based upon them, to suit the prejudices of their numerous inventors. There is a natural and well-grounded prejudice against what are called *theorists*. The tendency of a man's mind to theorize is, *ceteris paribus*, just proportionate to the activity of his imagination, and as nature has so ordained it, men's judgment is ordinarily defective, as their imagination or love of speculation is acute. Thus it is that minds naturally imaginative, whose flight of thought equal in celerity the movements of the playful Puck, "who could put a

girdle round about the earth in forty minutes," and whose speculations cost them neither time nor labour, see through the mysteries of diseased action, trace the movements of the master mind that wills it, "and give a local habitation and a name" to the self-created authorities of their ill-guided imagination. It is not from men so gifted that our profession will derive much advantage or instruction. Pray you avoid them.

There is another class of men, the objection to whom is so closely associated with the preceding, that I cannot forbear alluding to them,—they are mathematical surgeons. A man's mind that has been long accustomed to direct and palpable evidence, and whose conclusions are inevitable, though the very reverse of the imaginative, endeavour to reduce the question of principle to the level of direct reasoning, who will believe nothing that he cannot explain upon the same irrefragable principles of reasoning, as lead to the positive deductions of mathematical science. The tone of mind which this study engenders, appears to me not the most desirable for a practitioner of our art, notwithstanding the immense advantages which it affords in invigorating the reasoning powers. I should be sorry to be supposed desirous of withholding my tribute of admiration for highly cultivated intellect or reasoning power; but I assert, that so long as the data are but imperfectly known or understood, and until the principles of life and the nature of their operation are brought within the grasp of our comprehension, that that man's practice must be (to use the mildest term) most imperfect, who would postpone for one hour the application of a remedy, because he could not explain the rationale or the principles of its action; and there are too many practitioners of this class.

With the action of how few of the innumerable remedies of our Pharmacopœia are we thoroughly acquainted? This may be deemed a species of empiricism, but within a certain restraint it is essential to every practical department of our profession. You must not expect, then, that you are entering on a study, the principles of which can be reduced to a course of reasoning as certain and as conclusive as that of mathematical science. Empiricism means practice. It consists in the application of remedies which experience has taught us the value of, but which we have obtained through any means but those of reason. Take, for example, the treatment of some forms of disease of the testicle. We find them essentially benefited by the use of emetics. What is the rationale of this? Does the disease depend on a morbid condition of the stomach? If so, a form of aperient that would relieve it of its contents in common with the whole of the intestinal canal, ought to accomplish the same end, but it does not. Local depletives, aperients, diaphoretics, are equally inefficient, and an emetic finally removes the evil. Now the stomach and the testicle have neither vessels nor nerves in common. It is referred to sympathy. Is this satisfactory? To me I confess it is not, and in the state of our knowledge I should largely prefer acknowledging my entire ignorance of the *modus operandi* of the remedy, than I would mask the real difficulty by a pretended explanation, that would never be borne out by close physiological investigation. The conviction of our ignorance is the first step towards the improvement of our knowledge.

But, in the mean time, shall we withhold the emetic till we can explain the phenomena of its use? Certainly not; therefore the practice by empiricism is a necessary part of our duty. The late Dr. Gooch, the most able and most amusing lecturer of his day, was in the habit of recommending to his class some forms of medicine, which comprised a combination of a large variety of medicines in a single dose. In commenting on this "mess," as he was accustomed to denominate it, he used to say, "I combine these medicines together, because, I find them answer the object I have in view; I do not attempt to explain the theory of their application, but I find them useful, therefore I employ them." With regard to this subject let me observe, that the chief object of my reference is, that I am desirous that you should not commit yourselves to an explanation of the *modus operandi* of a remedy, unless you see its operation clearly and distinctly. Its consideration will conduce to a most important end,—that of leading you to *reflect* and *reason*,—to establish, as your groundwork, clear comprehensive premises, on which your treatment is based; to eschew the surgeon of wards with which the really ignorant man involves in a mystery of technicalities the statement of his opinions, and to endeavour to trace the workings of disease by simple and concatenated steps to their ultimate termination. I attach the highest value to that instruction which teaches simple principles,—which places before the eye of the student the first process of disease. I should be content rather, were he about to abandon instruction, to place him in the path of improvement, having adopted simple and distinct, but intelligible views of the early stages of disease, than I would endeavour to excite his interest or his attention by vivid descriptions of extensive and uncontrollable disease. I should prefer to study nature in a case of common ulceration, in which my assistance might be valuable, to pursuing the endless ravages of a malignant growth, of the nature and source of which I may be totally ignorant, and in which the only advantage I could confer, would be sympathy for the sufferer. And here let me advert to a common error among students, which owes its existence to a defect in their education,—that of misnaming cases of disease by the application of the epithet "*good*." You hear that Mr. So-and-so has a "good case" in such a ward, or "a good case of accident has just come in; they are gone for the surgeon to cut his leg off." Gentlemen, these are not good, but "bad" cases,—bad in every application of the word,—bad as regards the patient, for his body is mutilated by the knife,—bad as regards the art, for they justly expose it to obloquy,—and bad as regards ourselves, for they afford you no knowledge beyond that derived from beholding a painful operation, which you may possibly witness for the first and last time in your lives. I

conceive a good case to be suspectible of relief or cure, and then the more extensive the malady, the greater the "goodness,"—a case in which the art of the surgeon triumphs over disease, efficiently co-operating with nature in its eradication,—not one in which the surgeon takes the case into his own exclusive charge, and effectually extirpates it by the amputation of the limb of which it formed a part.

Now, Gentlemen, if for the purpose of warning you against unphilosophical and unreasoning views, of exposing to you the real level of our knowledge, and of preparing you for the necessity of availing yourselves of the aid of remedies, the action of which in the present state of our knowledge admits of no satisfactory solution, I have for one moment become the advocate of empiricism, I trust that the principles of education I have subsequently advocated, will guarantee to you my conviction of its utter incompetency to advance professional knowledge. Empiricism may be employed as the refuge, without being the cloak, of our ignorance. It may prove a valuable resource. It may temporarily represent, it can never supersede, the practice of reason. We may employ it as the homage due to the unexplained mysteries of nature; but it must ever be deemed a detracting blot on the real dignity and intellectual rank of our profession.

ON THE

TREATMENT OF FRACTURES

WITHOUT THE AID OF SPLINTS.

By W. C. Radley, Esq., M. R. C. S. L.,
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The illustrious Sydenham, in his old age, said, "Don Quixote is a good book: I read him still." I think and act with Sydenham in this respect, and am induced to select from the pages of Cervantes the following quotation as a preface to the observations I am about to make on an important branch of surgical art:—"At all times, in all places, and by all the learned, simple means of cure are more esteemed than those that are compound." I have watched the simplicity of nature in all things natural, and endeavour to imitate her in all things artificial,—especially in the practice of surgery; and thus it is that in the treatment of the accidents of which I am about to speak, I have been enabled to throw off the useless lumber of art in the shape of splints, and to effect cures with less pain to patient, in shorter periods, and in a far more creditable style of surgery, than is generally possible under those old encumbrances.

Nearly twenty years have elapsed since my first attempt was made to cure a fracture without force and coercion, and success has invariably followed every subsequent effort; and I now assert, that every species of fracture which is curable with splints, may be much better cured without them. Moreover, I affirm, that splints are not only useless, but positively injurious; productive of great pain and inconvenience to the patient, and in no case can give aid to the cure. On the contrary, I consider that they retard that desireable termination of our services. Fully aware am I, that assertions which condemn the practice and views of ages, should be advanced with caution; and influence by the considerations which innovations always create, I have hitherto been deterred from presenting my thoughts and practice in writing on these matters to the attention of the profession. As to public opinion (founded on ignorance of the resources of nature in curing fractures and other injuries), among those persons who have been my patients, as well as a host of friends whose feelings of interest have been awakened on the subject, I used continually to find them to be active opposers of a mild system of cure. By far the greater number of persons think that a broken bone cannot "be set" without the use of force; nor afterwards retained in a proper position but by strong compression, or what I have termed coercion. In all such cases I had ever found my patients more disposed, through fear of the results, to suffer the irksome tyranny of the splint, than to have themselves allowed the use of a soft pillow.

But not so now. Opposition to the plan has ceased among them; and where my assistance is required, bystanders, though yet half incredulous, let me proceed without remonstrance, while I assure them my aim is to make the patient easy and to keep him, referring to numerous cases in proof of its efficacy. I mention this popular prejudice in favour of long-established usage, because many preposterous modes of cure in medicine and surgery will readily occur to the mind of every practitioner, wherein absurdities no longer have a place in practice; and of which the wonder is that they should have ever been adopted at all. Let any candid surgeon read a modern catalogue of surgical instruments, and reflect on the announcement it makes. He will there find offered to him a choice of "Mr. Amesbury's apparatus" (excellent of its kind) "with splints complete." There are splints bearing the names of the venerated Pott, of Cline, of Sharpe, and of Martin, "whalebone splints," "improved fracture cradles, used at Guy's and St. Thomas's," "japanned" and even "iron splints," and, last but not least, "long splints, to reach from the foot to the arm-pit,"—to keep one set of muscles in protracted and painful extension, while their antagonists wait in an agony for their turn to move. Are these the resources of surgery in the year 1835? They constitute the abuse of surgical mechanism, which ought for ever to have given place to chemical science? When a fracture is properly reduced, the cure proceeds to its accomplishment, not on mechanical, but vital principles, assisted by rest and a general atmosphere. I assert, therefore, that mechanical aids should ever be passive and not active, where there is no displacement for the hand to reduce. All force or external pressure

that produces pain is mischievous, and should be avoided.

In such a state of things, one indication alone should influence our minds— the pain which the patient feels. Pain is concurrent with irritation, and, in this case, with the undue accumulation of heat around the limb, which is confined by splints and tight bandage; for if they be not tightly applied, neither the splints nor the bandage can be of use. Even if the limb be not in a malposition, yet irritation, passing into active inflammation: tends to delay the result of our efforts; and to secure ease to the patient, we should sedulously obviate those errors, and prevent the evil of malposition, by frequent examinations of the limb.

The suffering produced by fracture and its usual complications are three-fold. First, the mental anguish: secondly, the pain produced by awkward motion, clumsy handling, and the supererogatory offices of "setting" by compression and restraint; and thirdly, the permanent evil consequences that too frequently follow,—evils which are much more commonly produced by maltreatment than by the simple effects of the accident alone.

Not long since, a young peasant in a neighbouring village fractured the femur rather below the centre of the shaft. Twelve weeks afterwards I accidentally saw him, with his thigh tightly splinted up, and unable to set his foot on the ground; for the muscles, by the compression, had lost the power of motion,* in consequence of which the muscular energy of the limb continued for a long period impaired, requiring much patience and assiduous discipline to restore it to health, though the patient was a hearty and vigorous youth.

Another fine athletic fellow whom I saw, by falling across a low grassy bank, fractured his femur very near the centre. Six months afterwards I saw him, weak, pale, and emaciated, with a pair of long splints bound upon his thigh with a degree of force that brought to my mind the sailor's mode of fishing a broken mast, and all this infliction for the vain and ideal purpose of keeping the bone "right," though without any such force, the limb would have re-obtained its use in one fourth of the time which was occupied in the cure. Each of these was a case of simple fracture.

Let me seriously ask, Do surgeons ever apply splints to a broken rib? The practice is not possible; but does not the bone unite and heal without it, and simply with a little plaster spread on lamb-skin, although the bone is not deeply seated in and clothed with muscle like the thigh, the leg, or the arm, but merely covered by integuments; and moreover, is repeatedly in motion, from the convulsive shock of the cough which the accident excites. There are exceptions to the rule, but they do not affect the argument.

In fractures of the clavicle, I have never yet heard that the inventive power of surgical genius has designed a splint. Yet look at the situation of this osseous appendage to the breast and shoulders, close to air, and nearly uncovered; yet not unfrequently even without surgical aid it unites, and a cure is perfected.

In fractures of the lower jaw the same method is pursued. Like the clavicle, it is merely bound round with common integument, I think no surgeon (unless some Quixotic professor) would splint up a broken jaw. A man had the right lower maxillary bone fractured: the broken side was firmly supported in *situ naturale*, by a pad of lint and a silk handkerchief, so managed as to press most on the dependent portion. The blow was a heavy one; but after he had lain ten days in bed, he got up, moved about, could eat sufficient, talk enough, and slept soundly, until the sixteenth day from the accident, when the frolics of a country revel tempted him from home, when he got half drunk, and entered with much volubility into the particulars of his accident, the result of which was, a stiffness of the parts on the following day; but common care soon enabled him again to put the jaw to all its appropriate uses.

Long fissures and fractures of the bones of the cranium become filled up with ossific matter, and unite, with common warmth and quiet, without splinting.

If in these comparatively unfavourable situations the union of bones is perfected without the aid of splints, how much more certainly and rapidly will union take place, where the bones are imbedded in thick muscular parts possessing strong vascular action! I write at a disadvantage, because splinting has long been the custom, and the custom it will continue to be, until a fair trial shall have been given to some such plan as I am about to advocate, in which simple precepts and a greater reliance on the resources of nature, tend to make the application of the splint a barbarous and obsolete fashion.* I have waded through some quartos for the purpose of culling facts from the practice of others, to support my views in the cure of fracture, but with little success, and that of the negative kind, the statements being made without the design of militating against the general doctrine. Sir Astley Cooper's elaborate work on dislocations and fractures of the joints, is authority enough on the general employment of the "splint and fracture box" at the great London hospitals; and Dr. Bush, of Totness, a gentleman of great professional talents, on lately returning from the Parisian schools, informed me that the practice of splinting bore away at all the French hospitals; but I hope, that notwithstanding this array, the cases and facts bearing on my mode of practice will be found

* It was actually at one time a part of French surgical practice to "benumb" the muscles, in order to prevent motion in fracture.

* A favourite dog belonging to one of Sir Walter Carew's packs of fox hounds ventured too near the heels of a vicious horse, which kicked back and broke the dog's leg. He was cured without splinting, for after the lapse of three days he industriously gnawed off every thing that was put upon the limb. He was confined until well, getting fat the while; and he has since hunted as before the fracture. An African pigeon, which had its thigh broken, was cured without a splint or deformity.

to advance us one step at least towards the perfection of surgical art. At page 96 of Sir Astley's Treatise, there is an example of surgical treatment which I cannot pass by without remark in this place:—" Pressure," says Sir Astley, " between the broken extremities of bones, greatly conduces to the union of fractures; for if two broken bones overlap each other, on that side on which they are pressed together, there is an abundant ossific deposit; but on the opposite side, where there is no pressure, scarcely any change is observed. So also we find, that *if the ends of the bones be drawn from each other by the action of muscles,* as sometimes happens in the fractures of the os femoris, the tibia, the os humeri, and the radius and ulna, union is not effected until the surgeon, by a strong leathern bandage, tightly buckled around the limb, compels the bones to press upon each other, and thus support the necessary inflammation for the production of ossific union."

The first sentence contains truths that I never wish to see exemplified in my practice. It is with pleasure that I am enabled to record, that in every case of fracture (excepting in two persons who died of dreadful compound fractures, which I will hereafter describe) treated by me, the bones healed, or, rather, united by the first intention. Perhaps some surgeons will think with me, that it is as proper to say that the broken ends of a fractured bone unite by the first intention, as it is to assert that the sides of a fresh wound are healed by the first intention. In the fractures which I have treated all irritating causes were either prevented or removed by timely care, therefore the bones were allowed to lie quiescent, with their fractured ends in apposition from the first; while the absence of irritating causes did not ever, in any one case, excite the muscles to draw them asunder, so that they united, as I shall show, with the aid of the first, moderated, well-governed inflammatory action, which, whilst moderate, is always curative in its nature. On the contrary, when the first inflammation is severe, and has not been well subdued or obviated, the curative process is entirely perverted. Secondary and tertiary inflammations, and we know not how many attacks of spasm and abscess, or other evils, may separate the bones, so as to prevent union, *ad infinitum.* The importance of cure by first intention in fractures, through continued gentle management, is to me very probable. The last sentence in the quotation seems to me to be unworthy of Sir Astley's celebrity. The case of a Mr. Kidd is particularly described in the Treatise, where a leather strap and buckle were applied around the lower part of the thigh during a period of several months, " to compel the bones to press upon each other." Why, what were the other effects of this belt? Were there no nerves to be compressed, no arteries to suffer in their circulation from this violent pressure above the knee,—a pressure, too, which is general and not specific, though a specific pressure was the only pressure that was needed? Surely from the four great mechanical powers,—the lever, the wedge, the pulley, and the screw,—a better might have been chosen, and not the worst that could be devised. The pad of a common tourniquet placed to advantage over the loose ends of the bone, would have been preferable if any pressure was desirable at all. A long and thick pad placed in the course of the ham, with a piece of mill-board upon it for the band of the tourniquet to bear against, would have prevented material compression of the popliteal artery, nerve, and vein. Nor would that considerable anastomosing branch of artery, which perforates the vastus internus, have had its circulation much impeded; while the irritable muscles, not being so much pinched would have had less reason to complain of irritation. Suppose a common stirrup-iron had been taken as a pattern for a broad band of steel, an oblong arc of a circle or an elliptic, with a straight horizontal base, or the stirrup-iron has. This broad band, made as the spring of a truss, plane on plane to alter the size of the circle, might be drilled to receive a male screw in the centre of its upper convexity or summit; which screw, on passing down, should rest in a moveable shoe or hole, pressing under it a small arc, convex above and concave in its under surface; in this convexity a pad attached to it would, in any situation, laterally or vertically, just span the projecting part of a bone, and preserve a steady pressure at that point, and the patient himself with a turn of the screw could accommodate the pressure to his pain, and restore the continuity between the ends of a fractured bone.

It seems to me to be bad surgery to allow muscles to be so much under irritative influence, as actually to " draw the fractured ends of bones apart and render Sir Astley's expedient necessary. The precepts of that deservedly estimated anatomist Joshua Brookes, in his simple " classification of the muscles of the extremities, according to their uses, and his doctrine of muscular actions, tended to teach me to place the limbs in such easy and natural positions, as to prevent the incitement of a muscle to commit the great fault of drawing the fractured ends of bones from each other. A fracture of the radius a little above the wrist is, I presume, the most intractable fracture that can be met with; yet I defy any one to refer to a single patient, old or young, of the numbers in whom I have treated this common fracture, whose radius has lost so much as one-fourth of the extent of its natural range of rotation. The reason of so much success is to be found in the fact, that I have never used force to subdue the action of muscles. Force they continually elude; failure continually attends the attempt to fix them. Æsop significantly tells us that the quiet and insinuating rays of the sun induced the traveller to abandon the cloak which the " hyperborean blast " could not succeed in removing. The muscles will only yield after a struggle of many days, when their energy is worn out and overcome by brute force, and they have sunk into a state of inanition; when again recruited and roused into action

by coercion, they give the surgeon the trouble and vexation of doing his work over again. This is not an overcharged statement of the effects of the prevailing curative efforts. "Curative" do I say? I will relate a case demonstrative of the error of the term.

A midwife to the poor women of her neighbourhood, one night, mounted behind a boy on a horse which was not accustomed to the rustling of petticoats, was flung into a dry ditch, prone on the palm of her hand by which the radius was simply fractured four inches below the first joint of the thumb. A long splint was applied in front and rear of the radius and ulna, and strong compression was used during six weeks. I happened to see the case at the end of the tenth week, when the patient was still wearing the "padded splints," but not so tight then, she told me, as they had before been worn in the course of the treatment. The actions of pronation and supination were now effectually destroyed—not by the accident, but by the long continued splinting and tight bandaging, and the neglect of the usual motions. She was recommended to immerse the extremity in warm water, and was shown how to attempt to restore its proper motions; but up to that moment, so far had the process been from one of a *curative* nature, that she had better have placed at first a simple wet rag around the part, and worn it in a sling, for then unassisted nature might have done her own work as a curative agent in the affair. I have made many very good cures of this fracture with a light circular bandage, without splint of any sort, only first laying a long narrow pad over the edge of the fractured bone, so far as the wrist, and then lightly passing a wetted bandage over it. But in labourers and artizans, who must and do, I am sorry to say, labour prematurely after those accidents, a thin flat slip of fir, rather wide as far as the thumb, and then narrowed away to pass into the palm of the hand, may be used, preventing it from galling the soft parts, by winding around it soft clothes. A pad is laid along the course of the carpal extremity of the radius, the slip is secured by circular turns of bandage to the thumb, metacarpal bones, and wrist, *not tightly*, and *not so as to press at all on the fractured part*, which is merely surrounded by wet rags. The bandage is made to escape this part, and merely to confine the slip of fir to the arm, near the elbow, and downward, so as to fix the orbicular portion of the radius to the ulna. Such a mode I have found in scores of cases will allow a cure to be rapidly made, without any "weight and pulley to the thumb"—a petty torture recommended by Mr. Cline,—or the employment of any description of force. With the arm in a sling, quiescent, no muscles will long exhibit spasmodic action, or strong regular contractions, if not irritated thereto by maltreatment, a faulty position, or by fragments of bone pricking the nerves. Who likes to girth up a sound limb? How much less a painful, lacerated, and broken limb!

But there is no end to these pernicious influences. Let Sir Astley's testimony be heard, at page 369 of his Treatise:—"In a case of compound fracture, the bones were easily replaced, and the parts were carefully brought together. *The limb was laid upon a splint*, lightly bandaged. The only check was an abscess," &c. Check enough, and no wonder. Supposing the arm had been laid on a soft pillow with a tailed bandage, would irritation have risen so high as to run into suppurative inflammation, ending in abscess?*

Again in page 370, we read, "In a case of compound fracture of the elbow-joint (the subject was a gentleman aged 74, a neighbour of Sir Astley's), a pasteboard splint and an evaporating lotion were used. This dressing was not disturbed until the twenty-fifth day after the accident." "The wound was some time in healing, *being prevented by the pressure of the splint.*" This suffering was endured for a month, wanting three days only, by an old man with all the fidgety uneasiness of seventy-four years upon him. I fear this case did not end to the patient's comfort at those gastronomic seasons, when he wanted to carry a cup or a fork to his mouth. This recluse system of casing up limbs from the eye for a month, much as I admire Sir Astley Cooper as an operative surgeon, takes I think from his credit for penetration into the remedial processes of the body.†

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* I have seen a hundred cases of maltreated fractures. I quote one to the point:—

An elderly gentleman, of Exter, Mr. W. H——m, some years since fractured his tibia on the edge of a curb stone, about four inches above the malleolus internus. I rode up and saw him trying to *rest* his leg upon its outer surface on a fashionably-made splint, with a pretty excavated oval hole to receive the external ankle. I contented myself by saying that the fracture was well reduced (as it was), and lay with the muscles relaxed, and that it would apparently do well, the inflammatory action being then moderate and curative; adding, that in the event of his feeling much pain from the splint, it might be removed, as opinions differed respecting its utility. Newton is fifteen or sixteen miles from Exeter, and in a week I saw him again. Vesicles then covered the fore part of his leg, and there was much irritation from the splint, still under the outer ankle. My friend was a man of fortitude, and could bear, pain, but he kept shifting his splint again and again, but without obtaining ease. "I should be pretty well," he said, "and should sleep, were it not for this splint." "Why do you endure it then? It might be as well removed." "Mr.—, my medical man, whose abilities you well know, tells me that it is necessary." I remained at his house that night, and he was prevailed on to remove the splint before going to bed. He then slept soundly for the first night after the misfortune. The splint was not afterwards put in requisition, except *pro forma*.

† A very ugly "cure" of fracture at the upper portion of the tibia, four or five inches from the inferior point of the patella, occurred to a respectable farmer in the prime of life, a few miles from hence, by a cart-wheel passing over it. The surgeon splinted and bandaged as usual. The legs was seldom examined, the real position of the fractured ends of the bones was for the greater part of the time concealed: and when the limb was examined, the soreness was so great from the pressure, and tumefaction so long remained, that little good was done by gentle extensions from time to time, or any other kind of motion. Twelve months afterwards the good man showed me the limb. I concealed my

At page 259 of the treatise, we are recommended to apply a many-tailed bandage; and at page 370 "a light bandage in cases of fracture, wetted with spirits of wine and water." This application to most recent cases of fracture is decidedly bad. Let spirit be diluted with water ever so much, still the compound will be a stimulant. The first indication of surgery in these cases is to prevent heat which stimulation excites, and the second is to allay and subdue heat when it has been excited. The injury of the fracture itself, when effected with as little violence as may be, the jagging extremities of the bone acting on the soft parts, will always be a powerful exciting cause of heat, irritation, and pain. But in cases where severe confusion has been unfortunately, superadded, I have found ample employment in obviating the accession of heat and its effects in the use of a very weak lotion of water and superacetate of lead, or some decided sedative; or in tepid bathing, with exposure to the atmosphere to promote evaporation. This object cannot be attended to under the customary mode of proceeding.

NEW TREATMENT OF CROUP.

By Dr. KIRBY, *Prof. of Med. in the R. C. S. in Ireland.*

The attention of the profession has been very properly directed to a new method of treating croup, pursued by Dr. Lehman, Staff Surgeon at Torgan, consisting in the application of hot water to the region of the larynx, at the commencement of the disease. Dr. Lehman affirms that it has not yet failed in his hands when seasonably applied, and that it had been used successfully in several families, before his assistance could be procured. My own personal experience for nearly twenty years in the efficacy of a somewhat similar plan gives me the greatest confidence in his report, and I am encouraged to lay before the profession the treatment I recommend during the first hours of an attack of croup. I believe there is a disposition to this disease in the children of certain families; and when one suffers, I think it prudent to examine the other members of the group, and advise such precaution as circumstances may suggest.

My first advice is, that the neck shall be surrounded with a flannel bolster of hot salt, quickly heated to a temperature of which the hand is impatient. A woollen stocking will do, not too tightly stuffed, to accommodate itself to the form of the parts with which it is to lie in contact. This remedy acts as a rubefacient, and much beyond the limits of its contact. The face and thorax soon become florid. The temperature of the whole surface of the trunk and extremities is soon increased, and the pulse is accelerated, with a fulness and softness which promise a copious perspiration; and when that is established, it is astonishing to witness the rapidity with which the uneasiness about the larynx, the almost pathognomic cough, and the embarrassment of respiration, disappear. A triumph over the disease has now been obtained, but the remedy is to be renewed to confirm the advantage. Tepid drinks should also be given, and even small quantities of cold water, which is exceedingly grateful, and eagerly wished for. The medicine I uniformly prescribe is a mixture of ammonia, saturated with vinegar or lemon-juice, and a few drops of laudanum, the doses of which I alternate with two-grain doses of calomel and James's powder. Diaphoresis may thus be continued for twelve hours. It may then be allowed to subside, by changing the application less frequently, and employing a lower temperature. But these remedies should not wholly be laid aside for two or three days, or even for more, should there be any cough, or the slightest trace of preternatural laryngeal sound. While the perspiration continues, I do not risk its suppression by purgatives; but when it has nearly ceased, I administer tincture of jalap, magnesia calcined, electuary of scammony, and water. This combination agrees well with the stomach, acts in small doses, and its operation is more certain than any other medicine I am acquainted with. The discharges are sufficiently abundant, and the whole business is soon at an end. The cough, which sometimes continues for a few days, appears to me to be best treated by low diet and mucilaginous mixtures, to which squill, hippo, laudanum, are sometimes added with much advantage.

The annotator on Dr. Lehman's mode of practice advises the instant *abstraction of blood* from one or both arms, or from the jugular vein. Now, I am quite aware of the value of the abstraction of blood under certain circumstances, but experience assures me that it may frustrate the secretion of perspiration, which should be perfect; and I believe that it not uncommonly disturbs an important curative function in sudden diseases of the respiratory apparatus.

If the means I advocate disappoint expectation, and the lungs participate in the disease, the attendant distress will be alleviated by a full bleeding, and the skin may probably be thus brought into a state of diaphoresis. I remember a remarkable instance to the point. A fine child of seven years of age, and of unusual obesity, suffered from the highest inflammatory stage of croup, when I was called

surprise, for the projection of the superior edge of the fractured portion of the tibia, over the inferior portion of the bone, was full *three quarters of an inch*. Of course that projection was anteriorly and superiorly. Here was a "cure!" Why it was five years before the man could bear to step firmly with the leg, the weight of his body overhanging the line of bearing on the foot! He was told by his surgeon that all this displacement and weakness was a part of the consequences naturally attendant on so bad a species of fracture. Of course I did not disturb this opinion. I only recommended him to make "the best of a bad matter," encouraging him with the hope that time would mend it a little, under the long-continued auspices of a plastered, circular, dressed skin, and a bandage which he wore for a year having them from time to time renewed.

to perform venesection, which had been several times attempted by the persons in attendance. In a patient of so great corpulency, I doubted my success, and therefore opened an artery on the instep. Diaphoresis soon followed and the alarming symptoms rapidly disappeared.

Emetic tartar being mentioned by the annotator as a remedy to be used after venesection, I cannot close this notice without an expression of its influence on croup. Like venesection, when too early employed, it withholds a salutary diaphoresis, and promotes a thin cold moisture on the surface, the result of its depressing influence. *Leeches* and *blisters* are often the resource of men who pursue a practice of routine. I have never seen these means decidedly useful. I have known leeches to be prescribed in such ill-judged number, the child died of hemorrhage almost before they were disengaged. The delay in the action of a blister is an insuperable objection to it. The value of a counter-irritant is strongly displayed in the following case. A boy aged two years was brought to the hospital in the most unpromising stage of croup. I said I had no hope, but I would try an experiment. I applied a piece of *lapis infernalis*, extensively to the back of the neck, as if I designed to establish a large issue. The boy was quickly relieved, and rapidly recovered. *Mercury* is a remedy upon which reliance cannot be reposed. To wait for its effects is to waste time. In conclusion I shall observe, that I never saw a case in a child, of twelve hours' duration, which did not resist all the usual remedies of routine. It is high time to pass from a fruitless track into a new course. That, however, which I recommend is suited only to the period of invasion.—*Lancet.*

PATHOLOGICAL ANATOMY.

Pathological Anatomy is treated in this country with a degree of neglect which can be explained only on the supposition that the importance of its study is generally unknown. We have, indeed, a few distinguished men amongst us who labour to support the national reputation on a level with that of other European nations, but the great mass of medical men, through the imperfect precepts of their teachers, or an ill-founded fear of inability to acquire a sufficient knowledge of morbid anatomy, or under the culpable reflection that if they simply tread in the steps of their fathers they will do well enough,—this class of the profession continue to practise medicine purely in an empirical manner, and would never contribute to the advancement of the science were each to realise the Spanish compliment, and live a thousand years. With such examples, however, before them as are to be found in the "high places" of medicine, what have we to expect? Yet that it is time such a state of things should cease, and that farther and more extended efforts should be made to place medicine on a footing with the other sciences, who is "conservative" enough to deny? "Exact" we may never call the science, but we are satisfied that a searching examination into the nature and operation of those causes which have for so many ages retarded the progress of the healing art would enable us to show that the comparative slowness with which it has advanced, and the imperfections which are everywhere confessed to exist, depend not so much on the impossibility or the difficulty of raising medicine to an equality with the precise sciences, as on the manner in which it has hitherto been studied, and the obstacles which have been thrown in its path by those very persons who are most interested in the perfectibility of medicine. The mathematic and algebraic arts are based on fixed principles, and their elements, if we may so call their symbols, are passive and obedient agents in the hand of the professor who works them. But what would be the consequence if $x^2+2xy+y^2$ could say to the unfortunate algebraist, "Nothing know "you of your business. My root no longer "shall you work. I will depart to S. or to "L.!" Or what answer could we expect from a mathematician were we to require him to determine distances with but two angles, and without a side of the triangle? It is thus with medicine. The great mass of the community, so long as they remain in ignorance, will resemble the refractory symbols of the square root, and counteract every effort at a solution of the grand problem of medicine; while those who neglect pathological anatomy, commit an error analogous to trigonometrists who would say "Give me two angles and I will find you the side."

The practice of medicine consists of four parts:—1. The observation of external phenomena, or symptomatology. 2. The observation of internal phenomena, or pathological anatomy. 3. The study of the connexion between the signs and their causes. 4. And, finally, the administration of medicinal agents, or therapeutics.

Of the four different parts, the first and last require the least degree of talent for their cultivation. Any person can observe and note down symptoms. Symptoms can never be observed too closely, for although several external phenomena may present themselves which are, apparently, of little note or value, they should, nevertheless, be observed. They are abnormal appearances, and although the relations between cause and effect may now be hid, it may at some future time be discovered. Thus the sudamina and rosy spots which so peculiarly characterize typhoid fevers, were no doubt observed many years ago, but the idea that they were insignificant phenomena led to their neglect; whereas now they form a very principal element in the distinction of that species of fever.

The administration of medicine, or the therapeutic portion of the art of medicine, does not, we have said, require the exercise of much talent. The statement demands a few words of explanation. We fear, from the nature of things, that this, the practical part of medicine, will ever remain empirical. The efficacy of medicines in disease can never be established by *á priori* reasoning. We can, therefore,

only administer them with caution. We hear speak of new medicines, and not their effects; but to advance medicine by observation of the effects of medicinal agents, it is obvious that we should previously be thoroughly acquainted with the three other branches of medicine, especially with the doctrine of symptoms, and with morbid anatomy. In a word, that our diagnosis of disease should be as perfect as it can possibly be made. Without this perfection of diagnosis, the practice of medicine, instead of advancing with the experiments made in a therapeutic point of view, will naturally retrograde in direct proportion to the number of those experiments, for this simple reason, that a confusion of results is the consequence, and that it is impossible to see clearly through a multitude of conflicting statements. Hence, next to a careful examination of the patient at the bedside, the most important branch of medicine is pathological anatomy, and we trust that some persevering effort will be made to place this too-long-neglected branch of medical education on a proper footing. There is not so much an absence of good works on pathological anatomy amongst us, original or translated, as the want of a system of instruction, and a constant and efficient attendance in the dead-houses of the hospitals. It is unnecessary to dwell on the common observation, "that "pathological anatomy is of no use, unless "connected with symptomatology It is certainly studied with most advantage in cases where the pupil has been made acquainted with the previous history of the patient, has observed every stage of the case with care, and having become fully possessed of a knowledge of the external signs, is ready to compare and examine them in connexion with the appearances which present themselves after death. This is the true way of learning morbid anatomy, and we earnestly recommend the rising generation of practitioners to avail themselves of every opportunity of this kind which may offer. They may be assured that thus (independently of the feelings of confidence in the practice of the profession, which will arise from a consciousness of knowledge of the nature of the changes that take place in the internal and invisible surfaces, nearly as complete as of those which pass before our eyes) the whole aspect of medical science will become changed, and the profession will rise in an instant from the depths of quackery, to the rank of a noble science. In our hospitals, men of tried merit should preside, whose duty it should be to arrange the clinical cases, and examine the bodies of those who die. In some of the continental hospitals, there are young men expressly appointed and paid to fulfil this duty, and we believe, lodged in the hospitals, who, not being distracted by the cares of an enormous practice, can devote their attention to the instruction of the pupils to an extent which non-resident hospital functionaries are not disposed to, and never will give.

We are induced to make these remarks at the present moment, under the impression that we could not choose a more appropriate time or place to draw the observation of pupils and conscientious and influential teachers to the subject.—*Lancet*, 1835.

RUST'S MAGAZINE.

PROFESSOR BENEDICT'S FRAGMENTS.

The first article we have to notice in the present No. of *Rust's Magazine*, is a kind of review of the surgical clinique at the University of Breslau for the years 1828 to 1833 inclusive. The number of patients treated during that period was 5712, viz., 2812 surgical, and 2900 ophthalmological cases; however, the number of the former selected for clinical purposes did not exceed 700.

LITHOTOMY.

This operation was performed during the six years, thirteen times; one on a girl of twelve years; the rest on males, the oldest of whom had reached the age of fifty-three. All these patients were cured, with the exception of four, none of whom died immediately after the operation. Thus one of these four, a boy sixteen years of age, had been dismissed cured from the establishment, but died eleven weeks after of typhus fever. The second died fourteen days after the operation, when the left kidney was found in a state of suppuration, and the right one engorged. In the third case, death on the 11th day, evidenced suppuration of the left kidney, extending down to the pelvis. The fourth case was fatal on the fourth day from peritonitis. In reference to lithotomy, Professor Benedict relates a very curious case, which, on account of its termination, is worthy of record. The patient, fifty-three years of age, who had long suffered from symptoms of stone, was received into the hospital in 1816, but left it without an operation having been performed. After a lapse of twelve years the patient presented himself again, but during this time the calculus had acquired such a magnitude, that whenever the sound was passed between it and the bladder, it became locked. It was thought scarcely possible to remove the stone by an operation; however, this was undertaken, and the incision being prolonged considerably towards the rectum (which was not injured), the calculus was extracted after its outer shell had given way under the forceps. The stone weighed seven and a half ounces, without counting several fragment that were lost. On the fifth day the patient was seized with low typhus fever, without any signs of inflammation of the urinary or abdominal organs. The usual stimulants seemed of no avail, when the author accidentally learned, that his patient was a confirmed brandy drinker. All other means were at once laid aside, and the patient given a *table-spoonful of brandy* every two hours. This treatment was followed by such happy results, that in four days the quantity of brandy could be diminished, and the patient was content with a glass at breakfast. The patient was discharged cured after some months.—*Lancet*, 1835.

HISTORICAL TABLE OF MATERIA MEDICA.

BEFORE CHRIST.

Chronology doubtful.

EGYPTIAN MEDICINE.

First practised by Priests.—A temple erected to the Squill plant, under the name of *Crommyon* (Κρομμυον); Lapis ætites (a native oxide of iron); Fumigations with *Cyphi* (Κυφι), a mixture of 16 drugs; Slime of Nile; Nitrum (Carbonate of Soda?); Plasters and Unguents; Dietetical means.

HINDU MEDICINE.

Regimen; Unguents; Cataplasms; Fumigations; Baths.

HEBREW MEDICINE.

Hygiene; Cataplasms; Ablutions, &c.

GREEK MEDICINE.

To 430 B. C.

BEFORE HIPPOCRATES.—1398 B. C. Melampus cured Madness by Hellebore, and Impotence by Iron Wine. 1270, Chiron the Centaur (*Chironea Centaureum*). 1263, Esculapius: his sons Machaon and Podilirius; the latter used Blood-letting. Hecate, Circe, and Medea, (Enchantresses), acquainted with poisonous plants. Aconite; Moly (Allium?); Nepenthes (Opium?). Asclepiadeæ, descendants of Esculapius. Mineral waters; Hemlock; Elaterium (?) Scammony; Euphorbium; Cnidia coccus (Daphne Gnidium?); Colocynth, &c. Silphium (Asafœtida?) discovered by Aristæus. 617. 580—500, Pythagoras: employed Magic, Dietetics, Mustard, Aniseed, Vinegar of Squills, &c.

From 430 B. C. to 150 AFTER CHRIST.

HIPPOCRATES. 460— (?) B. C. Hippocrates of Cos, the founder of Scientific Medicine. Employed Hygienic means (Diet, Baths, Exercise, &c.); Venesection and Cupping; Malva, Linum, Glycyrrhiza, Mel, Cera, Rosa, Gallæ, Punica granatum, Allium, Scilla, Veratrum, Helleborus, Staphisagria, Sinapis, Elaterium (?), Scammonia, Daphne, Ruta, Καν θαρις (Mylabris Cichorii?), Piper, Cardamomum, Cinnamomum, Cassia, Mentha, Anisum, Coriandrum, Cuminum, Anethum, Ammoniacum, Sagapenum, Galbanum, Silphium (Asafœtida?), Pix, Juniper, Styrax, Mastisches, Myrrha, Castoreum, Crocus, Conium, Hyoscyamus, Opium, Sulphur, Nitrum, Alumen, Sal commune, Cerussa, Acetas Cupri, Ferrum, Arsenicum, &c.

ANCIENT DOGMATIC SCHOOL. 308 B. C. Founded by Thessalus and Draco (sons of Hippocrates) in conjunction with Polybius.

NATURAL HISTORIANS. 350 B. C. Diocles of Carystus, Ριζοτομικα. 384—322 B. C. Aristotle on Animals (also Plants and Pharmacy). 371 to 286, Theophrastus of Eresus, founder of Botany.

ALEXANDRIAN SCHOOL. 300 B. C. Medicine separated into Dietetics, Pharmacy, and Surgery. 295, Herophilus of Chalcedony employed Compound Medicines. 293, Erasistratus of Cos rejected Blood-letting: Simple Medicines.

EMPIRIC SECT. 286 B. C. Founded by Philinus of Cos. 240. Serapion of Alexandria. Heraclides of Tarentum (the "Prince of Empirics.") Attalus, 138, Nicander Θηριακα and (Αλεξιφαρμακα.) 135, Mithridates.

METHODIC SECT. 100, B. C. Asclepiades of Bithynia: 60, his pupil Themison founder of the sect. All medicines Astringents or Relaxants.

54 A. D. (?) Pedacius Dioscorides, the most celebrated of the old writers on Materia Medica. Date uncertain

ITALIANS.

23 A. D. Menecrates; employed Escharotics; Diachylon Plaster. 50, Celsus (from 13 to 55.) Nourishing Glysters; Frictions with Oil. 70, Pliny, the Natural Historian; died 79. 230, Cælius Aurelianus.

From 150 A. D. to 700 A. D.

GALEN TO THE FALL OF THE GREEK SCHOOL. 131—200 A. D. Claudius Galen, born at Pergamus. Diseases produced by alterations of the Humours, or πνευμα. Medicines act by their elementary qualities (heat, cold, dryness, moisture,) of each of which there are four degrees. This doctrine was held for 1400 years.

360 A. D. Oribasius. 550, Ætius: Camphor, Musk, &c. 560, Alexander of Tralles: Rhubarb, mild Laxatives. 650, Paulus Egineta.

AFTER CHRIST.	CHRISTIANS.	ARABIANS.
From 700 A. D. to 1100 A. D.	SCHOOL OF SALERNUM, Founded by Benedictine Monks: became celebrated about the eighth century. 1087, Constantine the African died. 1100, John of Milan ("Regimen Sanitatis Salerni.") 1110, Nicolus Præpositus. Diplomas granted. 1140, Mathew Plauter.	Doctrines of Galen. Mild Laxatives (Manna, Tamarinds, Senna, Rhubarb, Cassia) in place of Drastics. Chemical Medicines. Syrups, Juleps, Conserves, Loochs, Robs. Schools of Nisapour, Bagdad, Damascus, and Cordova.
From 1100 A. D to 1500 A. D.	DARK AGES. Medicine practised by Monks, who mixed superstition, magic, and astrology, with the grossest imposition. 1215, Gilbert: Acetate Ammonia; Oil of Tartar per deliquium; Bath Waters 1193—1282, Albertus Magnus. 1260, John of St. Amand. 1214—1284, Roger Bacon. 1240—1313, Arnold of Villa Nova 1235—1315, Raymond Lully. 1317, Matthew Sylvaticus. 1343, Dondis (father and son). J. Platear. St. Ardouin: Hydrarg. Oxyd. Rub. 1394, Basil Valentine: Prepared Chemical Medicines; introduced Antimonials, Preparations of Lead, Ammonia, &c. 1407, Mercurial Fumigations. 1508, Guaiacum. 1518, Mercury internally. 1545, Rad. Chinæ. PARACELSUS. 1493—1541. Doctrine of Signatures. Overturned Galenism. Used Chemical Medicines; formed Tinctures, Essences, and Extracts.	702 A. D. Geber, the patriarch of Chemistry. 852 to 932, Rhazes. 865, Mesue the Elder. 880, Alkendi. 978. to 1036, Avicenna: for many centuries regarded as infallible. 1002, Serapion the Young. 1017, Mesue the Younger.

GREAT BRITAIN.

From 1500 A. D. to the Present Time.

1579 Winter's Bark	Monro, Donald (Pharmacy)
1683 Serpentaria (Johnson)	1789 Cullen, (Mat. Med.) A solidist. All medicines act by motions excited and propagated in the nervous system.
1674 Willis (Pharmaceutice)	
1682 Lister (Mineral Waters)	
1693 Dale (Dispensatory)	
1695 Epsom Salt (Grew)	1791 Woodville, (Med. Bot.)
1697 Sulphuric Acid from Sulphur	1793 Rhus. Toxicodendron (Alderson)
1702 Mead (Poisons)	1794 Yellow Bark (Relph)
1736 Senega (Tennent)	1796 Pneumatic Medicine (Beddoes &
1739 Spigelia (Brown)	1800 Duncan, Jan (Dispensat.) [Watt)
1753 Lewis (Dispensatory)	1803 Cinchonia (Duncan)
1758 Kino (Fothergill)	1804 Murray (Mat. Med.)
1763 Willow Bark (Rev. E. Stone)	1805 Hamilton (Purgatives)
1770 Alston (Lect. Mat. Med)	1806 Pearson (Synopsis)
1774 Oxygen (Priestley)	1811 A. T Thomson (Dispensatory)
1775 Digitalis (Withering)	1812 Paris (Pharmacologia)
1778 Simaruba (Wright)	1813 Ainslie (Mat Indica)
1779 Red Bark (Saunders)	1813 Young (Classificat. Mat. Med.)
1780 Brown, (Elem. Medicinæ). All medicines regarded as stimulants.	1820 Iodine in Bronchocele (Coindet)
	1825 Phillips (Pharmacopeia)
	1825 Brande (Pharmacy)
1783 Angustura Bark (Ewer)	1829 Christison (Poisons.)

GERMANY.

1536 Sulphuric Æther (Valer. Cordus)	1795 Gemelin (Min. Mat. Med.)
1538 Cammerarius, Jun. (Bot.)	1800 Swediaur (Mat. Med.)
1631 Tartar Emetic (Mynsicht)	1802 Frank (Mat. Med)
1658 Sulphate of Soda (Glauber)	1802 Hayne (Botany)
1669 Phosphorus (Brandt)	1804 Morphia and Meconic Acid (Serturner)
1677 Wedelius (Pharmacy)	
1679 Weepfer (Poisons)	1805 Bertele (Pharmacodynam.)
1681 Nitric Æther (Kunkel)	1807 Burdach (Mat. Med)
1687 Cascarilla (Stisser)	1808 Pfaff (Mat. Med.)
1688 Magistery of Opium (i. e. Morphia: Ludwig.)	1810 Hahnemann (Homoiopathia)
	1816 Hüfeland (Consp. Mat. Med.)
1701 Rivinus	Voigtels (Mat. Med.)
1712 Kæmpfer	1819-22 Schwartze (Pharm. Tables)
1717 Ol. Cajuputi (Locher)	1820 Tiedemann and Gmelin (Physiol.)
1718 Hoffmann	1821 Vogt (Pharmacodynam.)
1740 Neumann (Pharm. Chem.)	Nees von Esenbeck (Botany)
1758 Vogel, R A. (Hist. Mat. Med.)	1825 Biscoff (Mat. Med.)
1760 Stœrck. (Crantz)	1826 Bergen (Cinchona)
1767 Munch (Belladonna)	Richter (Mat. Med.)
1774 Murray (App. Med.)	1827 Geiger (Pharmacy)
1790 Gren (Pharmacology)	Göbel (Pharmacognosia) [Zool.)
1791 Arnemann (Mat. Med)	Brandt and Ratzburg (Mat. Med.
1792 Trommsdorf (Pharmacy)	1830 Creosote (Reichenbach)
1793 Schlegel (Thesaurus)	1832 T. W. C. Martins (Pharmacog.)

AFTER CHRIST.

From 1500 A.D. to the Present Time.

FRANCE.

1544 Sylvius (Meth. Medic. Compon.)
1566 Antimony proscribed
1666 Antimony permitted
1672 Tartarized Soda (Seignette)
1694 Pomet (Drugs)
1697 Lemery (Pharmacopœia)
1700 Goulard (on Lead)
1702 Boracic Acid
1707 Kermes Mineral
1709 Chomel (Plants)
1717 Tournefort (Mat. Med.)
1723 Simaruba
1741 Geoffroy (Mat. Med.)
1762 Baumé (Pharmacy)
1780 Venel (Mat. Med.)
1789 Desbois de Rochefort
1803 Narcotine (Derosne)
1804 Decandolle (Me. Prop. Plants)
Alibert (Mat. Med.)
1805 Schwilgue (Mat. Med.)
Barbier (Mat. Med.)
1809 Magendie (Act. Strychni)
1812 Chlorides of Lime and Soda (Mazyer)
Picrotoxine (Boullay)
1813 Iodine (Courtois)
1814 Morphia (Robiquet)
1814 Orfila (Toxicology)
1817 Emetia (Pelletier and Magendie)
Medicinal use of Prussic Acid (Magendie)
1818 Strychnia (Pellet. and Caventou)
1819 Brucia (do.)
Veratria (do.)
1819 Loiseleur-Deslongchamps (Med. Plants)
1820 Quinia (Pelletier and Caventou)
Virey (Nat Hist. Med.)
Guibourt (Drugs)
1821 Chlorides of Lime and Soda (Labarraque)
1822 Barthez (Mat. Med.)
1823 Richard (Med. Bot.)
1824 Fee (Nat. Hist. Med.)
1825 Chevallier
1826 Bromine (Balard)
1829 Merat & De Lens (Dict. Mat. Med.)
1832 Narceine (Pelletier)
Codeine
Meconine (Couerbe)

SPAIN.

1530 Sarsaparilla
1538 Sassafras
1536 Garcias ab Orta (Drugs of India)
1574 Monardes (Drugs of West Indies)
1578 Costa (Drugs of East Indies)
1638 Cinchona
1787 Rodriguez Tavares (Pharmacol.)
1789 Rancé (Mat. Med.)
1796 Krameria (Ruiz)

ITALY.

1538 Mathiolus
1545 Brassavola (Simple Med.)
1592 Valerian (Columna)
1675 Calumba
1791 Sugar of Milk (Testi)
1734 Mazini Medicam.
1797 Brera (Medicines by Friction)
1798 Chiarenti (do.)
1808 Doctrine of Contra Stimulous
1811 Chrestien (Iatraleptice)
1817 Alberti (Flora Medica)
1826 Stellati (Mat. Med.)
1828 Bruschi (Inst. Mat. Med.)
Taddel (Pharmacology)

HOLLAND, &c.

1552 Jalap (Dodoens)
1574 Dodoens (Plants)
1576 Clusius (Plants)
1574—1644 Van Helmont (Chem.)
1648 Ipecacuanha (Piso)
1674 Marcgrave (Mat. Med.)
1719 Boerhaave (Mat. Med.)
1799 Ypey (Mat. Med.)

SWEDEN.

1749 Linnæus (Mat. Med.)
1756 Quassia (Rolander)
1774 Chlorine (Scheele)
1778 Bergius (Mat Med.)
1797 Bjôrnlund (Mat. Med.)

AMERICA.

1798 Barton (Mat. Med.)
1817 Chapman (Mat. Med.)
1817 Bigelow (Botany)
1822 Eberle (Mat. Med.)
1825 Coxe (Dispensatory)

VARIÆ.

1588 Treatise on Medicines in Russian
1633 Simon Pauli (Veg. Med. Denmark)
1665 Botanical Garden at Moscow
1670 Borrich (Chem. and Bot., Denm.)
1673 Iceland Moss (Borrich)
1749 Haller (Botany, Switzerland)
1802 Ipecacuanha Plant (Gomes & Brotero, Portugal)
Cinchonia (Gomes, Portugal)
Medical Gazette.]

LECTURES ON DISEASES OF THE RECTUM;

Delivered at St. George's Hospital.

By Sir B. C. Brodie, Bart.

ABSCESSES CONNECTED WITH THE RECTUM—FISTULA IN ANO.

I have already mentioned two kinds of abscesses which occur in connexion with piles. First, abscess forms in an external pile, and bursts externally. Sometimes it will heal and not form again; at other times it will heal, and then form a second time. I stated that the shortest way of curing this kind of abscess was to excise the pile in which it is situated. Secondly, an abscess forms in internal piles, which bursts into the cavity of the rectum; and this sometimes heals spontaneously, and sometimes not. When an internal pile, in which an abscess has formed, becomes protruded externally, you may remove it either by the scissars or by ligature; or where that cannot be done, the patient may be cured by a long-continued course of Ward's paste, or *confectio piperis composita*. Then I mentioned, in a former lecture, abscesses which occur in connexion with stricture of the rectum, or with malignant and other organic diseases of that organ. None of these, however, are the abscesses which terminate in the disease commonly called *fistula in ano*.

Abscesses which become fistulous generally occur in persons of costive bowels. Those who have been long subject to piles are more liable to them than others; I suppose in consequence of the inflammation originally occurring in the pile extending to the neighbouring textures. Sometimes this inflammation, which precedes the formation of such an abscess, occasions the patient so little pain that he is hardly conscious of any disease existing in the part. I remember a gentleman in whom an abscess formed by the side of the rectum, and who was not conscious of any local symptoms. But he had been for some time subject to headach, was langnid, forced to go home and lie down in the middle of the day. One day, walking in the streets the abscess burst; and that was the first thing which gave him any notion of its existence. In general, however, the abscess forms, attended, in the first instance, by a moderate degree of pain, and some tumefaction and induration are perceptible in the neighbourhood of the anus. The inflammation goes on, the pain and tenderness become greater, the induration more extensive, and at last the parts are so painful and tender that the patient can scarcely walk. The system sympathizes with the local inflammation, and the pulse becomes frequent, the skin hot, and perhaps the patient has rigors. Thus the symptoms run on until the abscess bursts. Sometime it bursts into the rectum, and not externally; more frequently it presents itself externally, and bursts at a little distance from the anus. In many cases the abscess communicates with the inside of the gut, and opens externally also. As soon as the abscess has burst, the symptoms are all relieved. The pus which is discharged is seldom healthy, like that formed in an abscess situated elsewhere. For the most part it is dark-coloured, putrid, and offensive. Whether these qualities are given to the pus in consequence of a small quantity of fæces penetrating through an auerture in the mucous membrane into the cavity of the abscess, or whether it is that there is any transudation of fæculent matter, or gas, through the mucous membrane, without there actually being an aperture in it, I am unable to determine. I think it very likely that in many cases, at least, the offensive quality of the pus is to be attributed merely to transudation. I have known many facts which prove that transudation, to a certain extent, takes place in living bodies as well as in the dead subject. For exanple, a gentleman had an encysted tumor in the neck, which contained cheesy matter, such as is found in the common subcutaneous encysted tumors. This cheesy matter had become rancid, and when the tumor was dissected out the smell was exceedingly disgusting. Before the operation, the effluvia penetrated not only through the coats of the cyst, but also through the skin of the neck; so that you could scarcely bear to stand near the patient: I mean that you could smell the rancid contents of the cyst, when the cyst itself and the skin over it were entire.

When the abscesses has burst externally, it sometimes heals as any other abscess would do. This however, is only an exception to a general rule. For the most part the orifice of it remains open, and it continues to discharge a little matter; or if the orifice closes, it is only for a time, the matter being again collected at the bottom of the orifice, and the skin once more ulcerating. In the course of time the margin of the orifice becomes hard and projecting, a sort of button or tubercle being formed round it, and it is while in this state that the abscess is said to be converted into a *fistula in ano*.

I say the general rule is that this kind of abscess does not heal. But abscesses in other situations do, unless there is some particular local cause operating, or the patient's general health be bad. An abscess may be prevented from healing by a portion of dead bone, by a diseased gland, or by a piece of dead tendon or ligament at the bottom of it. But what is it that prevents an abscess from healing that forms by the side of the rectum? Here is a preparation [presenting it] which I think will explain how this happens. Here has been a *fistula in ano;* the mucous membrane has been dissected off, and a piece of bougie has been passed into the *fistula*. The fibres of the sphincter muscle pass over the bougie, and they pass under it also, so that, as you perceive, the sinus in fact is in the substance of the sphincter muscle; and I am certain that that is generally the case. If you look at the position of sinus in the living person, you will be satisfied that for the most part it runs through the sphincter muscle; and dissection, as you have seen, confirms the observation. The sphincter muscle is constanly in motion, contracting and dilating, and consequently there is not the repose which is necessary for the cure of the abscess. The

action of the muscle, in fact, prevents the abscess from becoming consolidated. In illustration of the effect of muscular action in preventing the healing of an abscess, I may mention this case:—A man was in the hospital on account of an abscess which burrowed in the muscles of the thigh. There was no lodgment of matter, no dead bone, no diseased glands at the bottom; but the abscess penetrated in various directions among the muscles, and they were in constant action around it. As long as the patient was walking about and using the limb, the abscess never healed. I put him to bed, and kept the limb in a state of perfect repose, as if the bone had been broken. Under this treatment the abscess, which would not heal before, healed readily.

I have said that the abscess forms in the vicinity of the gut. But it may extend in any direction; so that there may be a very large abscess running all the way from the rectum to the *nates*. Such an extension of the abscess makes no alteration in its character: it is still a *fistula in ano*.

An abscess sometimes form high up by the side of rectum, above the sphincter muscle; but this is of comparatively rare occurrence. These abscesses attain very large size before the patient suffers much pain or inconvenience. There is at first merely a sense of bearing-down of the rectum, occasioned by the pressure of the abscess on it; but as the abscess increases in size, the patient has violent painful spasms, and a constant feeling as if he wanted to pass a motion, while there are no fæces in the bowel. His sufferings are now excessive. You examine the external parts, and you see nothing. You introduce your finger into the rectum, and there you perceive the abscess pressing on one side of the gut, and very much diminishing its diameter. Having thus ascertained the position of the abscess, if you examine the external parts again, although you could discover nothing in the first instance, you will probably be able to detect it, deep-seated as it is, at the side of the anus. More resistance will be offered to the pressure of the finger here than elsewhere; or if you introduce two fingers of the left hand into the rectum, which you may easily do, and press on the abscess from within, you will make it actually bulge a little externally. These absceses high up by the side of the rectum given the patient an extraordinary degree of suffering, and that for a great length of time. If left to themselves, they generally burst into the rectum. It is your business, as I shall explain to you hereafter, to give the abscess an opening externally, before it has made another opening for itself.

I have told you that absceses of the rectum occur in persons who are costive, and have been the subjects of piles; but I have no doubt that sometimes they are produced by foreign bodies penetrating through the mucous membrane of the bowel and sphincter muscle into the cellular membrane. I was sent for to a gentleman who had a very uneasy feeling in the rectum. I thought he laboured under internal piles, and prescribed him something which, however, did not relieve him. The next day, as he was not better, I examined the rectum, and found a hard substance sticking in the mucous membrane. With some difficulty I extracted it, and found it to be part of the core of an apple, which the patient had eaten the day before. Suppose this had not been extracted, the apple core, having penetrated through the mucous membrane, would have produced an abscess by the side of the gut. I was sent for to another gentleman, a year or two ago, with a very large abscess formed by the side of the gut. He suffered a great deal of local pain; had a very frequent pulse, brown dry tongue, very hot skin, and typhoid symptoms. I opened the abscess, and let out a quantity of very putrid offensive matter, which sufficiently explained the typhoid symptoms under which the patient laboured. After I had opened the abscess, I introduced my finger into the cavity, and, sticking across it, I found a long fish bone, which I extracted. The fish bone had evidently penetrated through the mucous membrane of the bowel, and in all probability some small portion of feculent matter had passed by the side of the fish bone, thus accounting for the remarkable putridity of the matter.

A *fistula in perineo* is a very different affection from a *fistula in ano*. It is an abscess communicating with the urethra, and the urine flows through it when the patient makes water.

It is generally caused by some obstruction in the urethra, and all that is necessary for its cure is to dilate the obstructed canal.

Sometimes, however, a *fistula in perineo* is complicated with the disease of which I am now treating. I have seen of this only a very few examples. One of these is a patient in the hospital at present. This man had, if I remember right, a severe attack of gonorrhœa. This was followed by an abscess communicating with the urethra, which, instead of making its way directly to the perineum, ran (I suppose) behind the triangular ligament of the perineum to the rectum; and then again burrowed in front of the latter, and at last burst by the side of the anus; so that it had all the characters of a *fistula in ano*, though it communicated at the same time with the perineum and urethra.

I have mentioned that abscess connected with the rectum may occur in persons in the best state of health. But those who are in bad health are more liable to them than others. They occur frequently in connexion with disease of the lungs: patients labouring under tubercles and abscesses of the lungs being very liable to abscesses by the side of the rectum, which have all the characters of common *fistula in ano*. You should always take care, before you operate on a patient for fistula, to ascertain whether the lungs are sound. Persons with diseases are also liable to the formation of these abscesses. The distinction of these cases from those which occur in otherwise healthy subjects, is very important, inasmuch as the practice which is proper in the one case is quite improper in the other.

I have said that for the most part an abscess by the side of the rectum has no disposition to heal. What, then, will happen if you do no-

thing in such a case? The fistula will remain open, sometimes discharging little and sometimes much; the orifice alternately closing and opening. I have known several cases in which a neglected fistula has continued in this state for years. This, however, is what ought not to be allowed, for sooner or later the day of reckoning comes, and the fistula which was a trifling disease originally, assumes a formidable character. A gentleman who had had an abscess by the side of the rectum for twenty years, and it went on as I have mentioned, sometimes discharging a little matter, then stopping, and then discharging again. Some three or four months before I was consulted, the external orifice closed, and did not open again as usual. By and bye he began to suffer a great deal of pain, became exceedingly ill, and I was sent for to see him in the country. He appeared to be all but dying; he was not in *articulo mortis*, but I do not think he would have lived twenty-four hours longer. I examined the rectum, and satisfied myself that there was one of those large deep abscesses which I have just now described. I introduced a lancet by the side of the gut, and thrust it in quite up to the handle before I could reach the matter. I was sure of the right direction of the lancet, and carried it onwards until I succeeded in my object. When a little matter had escaped, I introduced a probe-pointed bistoury, and dilated the orifice freely. Immediately there flowed a pint or more of matter so putrid as to cause the whole house to stink; so that you could smell it in every room. This operation saved the patient's life. It was necessary, on a future day, to enlarge the opening still further into the rectum, because the matter did not escape with sufficient freedom; but from that time the patient went on well. This monstrous and dangerous disease had been produced in consequence of the neglect of a trifling affection, which might easily have been cured in the beginning.

A *fistula in ano* is sometimes a simple fistula, such as I have before mentioned. It may communicate with the gut and not open externally; or *vice versâ*; or it may open externally, and communicate with the inside of the gut also. But sometimes the fistula is complicated, so that there is a sinus in one direction, and a second in another. There may be even three or four different sinuses produced, by the abscess burrowing first in one direction, and then being stopped and burrowing in another; thus pursuing a circuitous course until it finds its way to the surface. I have adverted to a case in which a common *fistula in ano* gave rise to the formation of a large deep-seated abscess, high up by the side of the rectum; and I have no doubt that many such deep-seated abscesses are formed in this manner. Sometimes, in attempting to cure what seems to be a common fistula, you find that it does not get well as usual, and then at last you discover a large abscess above, which prevented the closing of the smaller sinus below.

TREATMENT.—When inflammation takes place by the side of the gut, such as you might expect to terminate in abscess, it will do so in most cases in spite of all your efforts to prevent it. There are, however, some exceptions to this rule; I have every now and then known a patient who has been thus threatened put on leeches and keep quiet, the inflammation subsiding afterwards without suppuration; but in nineteen cases out of twenty the abscess sooner or latter forms. If you are called to the patient quite *early* in the disease, you may put on leeches, keep him quiet and give him the small chance of preventing suppuration which this treatment will afford; but otherwise your best plan is to poultice the part, foment it and encourage the formation of matter as much as possible. When you are satisfied that matter has formed, the sooner you open the abscess the better; for the longer you leave it the more mischief will the matter do, by burrowing in the neighbourhood of the gut. You need not wait till the matter can be felt externally; if the symptoms indicate that matter has formed, and you feel the hardness externally, you may venture to introduce your lancet. Bear in mind the anatomical position of the parts, and you will be able to introduce a lancet with perfect safety, until you reach the cavity of the abscess, even although it be very deep seated.

I have stated that abscess sometimes heals, but that it generally does not, and that then it forms a fistula. What are you to do in this stage of the disease? how are you to heal the fistula? It was formerly the custom to dissect out all the hard callous parts around the abscess, and a most frightful operation it was. I believe it was Mr. Pott who made this great improvement in this department of surgery, by showing that such a dissection is quite unnecessary, and that all that is required is, to lay the abscess freely open into the bowel. If you look at this preparation [presenting it], I think you will see how it is that this simple operation is sufficient to produce a cure. The matter runs freely out of the abscess, and yet the patient does not get well, because, as I told you, there are the fibres of the sphincter muscle constantly acting on the abscess, and preventing the healing process. When the abscess is laid open, the fibres between it and the bowel must be divided, and the sphincter muscle being thus set at liberty, not only is there a free and immediate escape of the matter, but the action of the muscle, which prevents the healing of the abscess, is put an end to. This, then, is the mode of curing the abscess: lay it open into the bowel, dividing at the same time the fibres of the sphincter muscle which lie over it.

But before I proceed to describe the operation in detail, and to explain all the various circumstances which require to be attended to, as connected with it, I must speak to you concerning the cases in which the operation is, and those in which it is not, proper to be performed. It may be performed in healthy persons, but not in those who are in a state of disease. The operation is proper if the rectum be otherwise sound, if the lungs and the liver be sound, if there be no organic or visceral disease; but if the rectum be not otherwise in

a healthy state, if there be stricture, carcinoma, or any other disease of this organ, the operation ought not to be performed; for under these circumstances the sinus will not heal, even though it be laid open. If the patient labour under visceral disease, it is seldom that the abscess will heal; but if it should, the visceral disease will make increased progress, and the patient will die sooner if the operation be performed than if it were let alone. If a person come to you with *fistula in ano*, and he looks as if he laboured under some other disease, always inquire into the state of his general health, and take care never to perform the operation except when you are satisfied that his health is good.—*Medical Gazette*, 1835.

CASES

OCCURRING AT THE

NORTH LONDON HOSPITAL,

IN WHICH THE

CREOSOTE WAS EMPLOYED

FOR THE

PREVENTION OF SICKNESS.

To the Editor of the Lancet.

Sir,—The attention of the medical public has, of late been frequently directed to the virtues of Creosote in various diseases. Different opinions are still entertained on this subject, and since the question is one which can be decided only by an examination of facts, perhaps you will oblige me by inserting the following cases in the *Lancet*. I have selected those only in which this remedy was used for the prevention or alleviation of sickness. The patients were treated in the North London Hospital, by Dr. Elliotson, to whom, I believe the profession is indebted for most of what is really known on the subject. I am, Sir, your very obedient servant,

John Taylor,
Apothecary.

North London Hospital,
August 5th, 1835.

Case 1.—Ellen Connoly, admitted Nov. 11th. Has been working in a white lead manufactory, and has had colica pictonum for several weeks past. The bowels were obstinately constipated, but for the last few days she has had a diarrhœa. She now complains of pain in the stomach, of a spasmodic character, and she vomits everything she takes. No sign of gastritis. Ordered *Creos.* m. ij ; *Mucil.* ℥i ; *Aquæ* ℥ j. 4tâ q. q. h.

12. The vomiting and pain have quite gone.

14. Has vomited once. *Creos.* m. iv.

15. The vomiting has not returned.

Case 2.—Eliza Harman, admitted June 13th. Has been living with a painter, and in newly painted rooms. About a fortnight ago was attacked with severe pain in the abdomen, of an intermittent character, and attended with vomiting and constipation. She was seen by a medical practitioner, who bled her, and gave her a variety of purgative medicines, which were all rejected. The vomiting continues unabated, and her bowels have not been relieved for fourteen days.

Ordered immediately *Ol. Terebinth.* ℥ iij ; *Decoct Avenæ* Oiij, as an enema ; and *Cal.* ℈j ; to be preceeded by a draught containing *Creos.* m.ij. If these do not operate, to have a pill containing *Croton Oil* m.j, preceded by a similar draught, and repeated every few hours if necessary.

The enema and calomel produced no effect, and two of the pills were required before the bowels were opened. Not a single dose of the medicine was vomited. Nothing but an occasional aperient was given afterwards, and she was discharged well in a few days.

Case 3.—Mary Chatters, admitted April 19th. Five days ago was attacked with vomiting and severe spasmodic pain in the lower part of the abdomen. She has not had a motion for a week. She has been seen by a surgeon, who bled her, and ordered her an enema and some purgatives. All the medicines were rejected immediately.

To have an enema of *Ol. Tereb.* and gruel, and also a pill containing *Croton Oil* m.j ; to be preceded by a draught containing *Creos.* m.ij. and repeated every three hours until it operates.

It was necessary to take three pills, not one of which was vomited, before the bowels were freely moved. The symptoms then disappeared, and she was discharged in a few days.

Case 4.—Margaret Franklin, transferred from Mr. Liston, under whose care she was admitted June 11th, for suspected disease of the rectum. For the last twelve months has been troubled with obstinate constipation ; frequently having no motion for a fortnight. There is no stricture of the rectum, nor any obvious cause for the costiveness.

Ordered *Croton Oil* m.j. in a pill every 3 hours until it operates, and afterwards once or twice a day. The pills could not be retained on the stomach, and therefore *Creos.* m.ij. was given before each. This prevented the sickness, and the bowels were soon relieved.

Case 5.—William Daymond, admitted December 16th, has severe colicky pains in the abdomen, and vomits every thing he takes ; has been ill several days ; has had the same complaint several times before, and was always treated for Painter's Colic. From this circumstance, together with a condsierable wasting of the muscles of the fore-arm and thumb, it is supposed to be the consequence of some exposure to lead, though that cannot be ascertained.

To have *Creos.* m.iij 3tiâ q. q. h.

17. Sickness gone ; but the pain was so severe that he was ordered an opiate in addition to the purgatives.

18. Bowels not relieved. He left the hospital from the supposition that some operation was about to be performed upon him. The sickness never returned.

Case 6.—James Macintosh, admitted July 4th, a painter. During the last ten days has

had several attacks of colic, attended with constipation and vomiting. Complains still of the pain, but his bowels have been opened by medicine; he is distressed by constant sickness. Pulse 60.

To have *Cal.* gr. v ; *Opii* gr. j ; st., and *Ol. Ricini* ℥ j ; *Tr Opii* m.xv vesperi, et repet. si opus sit.

5. Bowels being confined, to have a Terebinthinate enema, and *Ol Croton* gtt j, to be repeated if necessary ; also *Creos.* m.ij p. r. n.

7. The sickness was stopped very speedily by the creosote. He continued better, and was discharged on the 14th.

Case 7.—Catherine Seman, admitted November 1st, complains *of burning pain at the epigastrium, and a sense of heat extending up the œsophagus ; great tenderness on pressure ; the pain increased after taking food. She vomits every thing she takes.* There is extreme tenderness of the integuments over the sternum and adjacent parts ; a choking sensation in the throat, and, occasionally, regular paroxysms of hysteria She has been ill for eighteen months, and attributes her affliction to a moral cause.

To have *Creos.* m.iij ter quotidie, and *Ext. Coloc. Co.* every night to keep the bowels open.

2. Sickness a little relieved, but still severe. It was ascertained to-day from her previous medical attendant, that she had been taking the creosote in doses of three drops before coming to the hospital. It was now, therefore, increased to m.vi.

4. Sickness and pain better, but the tenderness continues. The sickness and burning pain returned at intervals, and were particulary severe when any thing happened to disturb her mind, as was the case on several occasions, from other patients in the ward having fits, and from receiving unpleasant news from her friends. On this account it was necessary to increase the dose of the creosote, at moderate intervals, to obtain the same relief.

22. Ordered, in addition, *Carb. Ferri* ℥j ter quotidie, to be taken immediately after the creosote, with the view of relieving the hysterical symptoms. Before she came into the hospital she had attempted to take the iron, but the stomach would never bear it. In conjunction with the creosote, however, the stomach bore it very well. She continued improving ; the dose of the iron was gradually increased to ℥ ss, and of the creosote to m.xiv. She was discharged Dec. 23rd, the sickness having disappeared, and the pain of the stomach and sensibility of the surface being almost gone.

Case 8.—Ann Body has been in the hospital several months under the care of the surgeons, but was transferred to Dr. Elliotson, June 30th. She has decidedly marked hysterical symptoms; great sensibility of the surface over the anterior part of the chest ; sense of choking in the throat, and very often regular paroxysms of the disease. *She also complains of a burning pain at the pit of the stomach, extending up the œsophagus ; tenderness of the epigastrium, and frequent vomiting, The pain is increased by cold drinks, and relieved by warm ones ; tongue healthy, having no preternatural redness. Pulse* 60 *skin cool.* All these symptoms being considered hysterical, she was ordered to take *Carb. Ferri* ℥j ter quotidie, and *Creos* m.j, when required for the sickness. The dose of each was subsequently increased, and she still continues to take them. The symptoms are all relieved, but the pain and sickness still return occasionally. The creosote always removes the sickness, and affords much more relief from the pain than any other medicine.

Case 9.—David Walker, admitted Nov. 10th, with anasarca, ascites, and probably organic disease in several of the abdominal viscera. Is distressed with constant nausea and frequent vomiting. No signs of gastritis. The sickness had been relieved by creosote before he came to the hospital, but returned when the medicine was omitted.

Creos. m.iij ter quotidie.

12. The sickness has been completely relieved. He continued to take the medicine up to the time of his death on the 25th, with the same effect.

Case 10.—Charles Watkins, admitted April 28th, for the last four years has vomited all food and drink almost immediately after swallowing it. He appears quite well, has no pain in the stomach, and but very slight tenderness over the epigastrium. Tongue slightly coated, but in other respects healthy. Has a slight giddiness occasionally, but no pain in the head. Has been an out-patient of the Middlesex Hospital, and has been treated by several private practitioners, but in every instance without success. Until a month ago he did not vomit his medicines, but during this period nothing has remained on the stomach. The creosote was the last medicine he took before he came into the hospital, and it was retained after all others were rejected.

Creos. m.i ; *Mucil* ℥j ; *Aquæ* ℥iij.

This was repeated seven times, another dose being given as soon as the preceding was vomited, but all without any effect. Two and three drops were then administered with the same result. It was next tried on sugar, but still unsuccessfully.

May 4. Took thirty doses of three drops each in immediate succession. They were all vomited instantly, but produced no giddiness nor any other unpleasant symptom, except a temporary sense of heat in the stomach and fauces.

5. *Ac. Hydrocyan.* m.j ; ex *Aquæ* f.℥i ; ter quotidie.

6. M.ij. These were vomited just as the creosote.

9. *Creos* m.iv ; *Ac. Hydrocyan.* m.iv ; *Mucil.* ℥j ; *Aquæ* ℥ ss ; ter quotidie.

12. *Creos.* m.v ; *Ac. Hydrocyan.* m.v.

None of these produced any good effect. As there was no obvious disease in the stomach, Dr. Elliotson thought it possible

that the vomiting might depend upon some morbid condition of the brain, especially as the patient complained of occasional giddiness, and intended to modify his treatment accordingly but the boy was unsettled, never having left home much, and his mother took him away

Case 11.—John Jarvis, admitted November 4th, with decided symptoms of phthisis. Has had a diarrhœa for the last two years ; for this he was ordered the compound kino powder, which checked it for a time, but as it returned he was ordered on the 11th *Sulph Cuprs* gr. $\frac{1}{4}$ ter quotidie in formâ pilulæ.

13. The purging is better, but the pills make him sick. To have a draught containing *Ac Hydrocy.* m.ij, ten minutes before each pill.

18. The draughts prevented the sickness at first, but are losing their influence. To have m.iij in each.

20. M.iv.

22. M.v in each, for the same reason.

29. The diarrhœa having returned, he was ordered *Sulph Cupri* gr. ss ; *Opii* gr. ss, 8va q. q. h., and the same dose of the acid.

Dec. 2. The pills still produce sickness, and the diarrhœa continue. To take them every six hours, and a drop of creosote before each. Omit the acid.

4. The sickness continues. m.iij.

7. The last dose relieved the sickness, but as it has begun to return occasionally, to have m.v.

From this time he had scarcely any sickness, the diarrhœa alternately ceased and returned, and on the 13th he died.

Case 12.—Michael M'Avoy, admitted Nov. 24th, with chronic bronchitis, and symptoms of incipient phthisis.

Dec. 23. To have *Sulph Ferri* gr. ij, bis quotidie, as a tonic.

26 Gr. iv.

27. He vomits every thing he takes.

Jan. 1. Vomiting continues. To have *Creos.* m.ij, 6ta q. q. h.

3. Says the first dose of the creosote stopped the vomiting, and it has not since returned.

6. The vomiting has returned. m.iv. 6ta q. q. h.

13. Discharged. Has had no more sickness.

The narration of the preceding cases has already occupied so much space that I will merely *enumerate* a few more, without entering into any details. In all the cases which follow, the creosote was used to relieve nausea or vomiting produced by taking hydriodate of potass, and in every one it succeeded perfectly. In most of them it was found necessary to increase the dose of the creosote, up to a certain extent, simultaneously with that of the salt, in order to maintain its effect.

Case 13.—Sophia Flower—ascites and anasarca.

——— 14.—Bridget Dayle—inflammatory neuralgia.

——— 15.—Thomas Stone—dropsy.

——— 16.—Jas. Shields—universal dropsy.

——— 17.—William Wright—aneurysm of the abdominal aorta.

——— 18.—Elizabeth Powell—hypertrophy of the heart with dropsy.

——— 19.—Mary Greenslade—inflammatory anasarca.

I have hitherto confined my statements to such cases as have come under my own immediate observation, but I could refer to many others, equally satisfactory, which have been communicated to me by several private practitioners. Dr. Elliotson, I believe, has employed it with success to relieve the sickness in two cases of the malignant cholera, and also in one or more cases of sea-sickness.

Remarks.

From a consideration of the abovementioned *facts* I am unable to arrive at any other conclusion than the following, viz., that the creosote possesses great power in controlling vomiting from certain causes. I have mentioned nineteen cases, in one only of which it has failed ; in that solitary instance no other remedy succeeded. The creosote was retained by the stomach after every other medicine was rejected, and I might add, that time was not allowed for a full trial of its influence. I have had but little opportunity of observing the comparative powers of this substance, and of hydrocyanic acid. They were both used in two of the preceding cases, Nos. 10 and 11. In the one, the creosote succeeded after the acid had failed ; in the other were almost equally unsuccessful.

I have observed scarcely any bad effects from the employment of this medicine. In one case in which it had been given *for a considerable time and in large doses*, the patient complained of giddiness, tremors, and a sense of debility ; but these symptoms subsided on lessening the dose. In Case 10, as many as ninety drops were given in less than half a day, without any bad symptom. Once or twice the nurse had had told me, that the urine has become dark-coloured, but I have never yet seen any alteration in it. The taste of the medicine is not agreeable to most persons, but patients do not complain more of of it than of many substances in common use.

In the use of this, as of every other remedial agent, certain circumstances must be attended to in order to ensure success. A careful diagnosis ought to be made, that the medicine may be given in those cases only in which its beneficial influence has been observed; the article should be obtained pure, and every precaution should be attended to in its administration which experience has proved to be important. These considerations will appear to many too obvious to be mentioned ; but as I am satisfied that much, if, not all, the difference of opinion existing on this subject has arisen from inattention to one or more of them, perhaps I may be allowed to conclude this already protracted communication with one or two additional observations bearing on the same point.

First. The creosote should never be given when there is any gastric inflammation. This consequence might be deduced from a consideration of its properties, which are powerfully stimulant, and experience may be adduced in confirmation of it. I have seen more than one instance of inflammatory tenderness of the mucous coat of the stomach where the creosote was given for another complaint, and in which the symptoms were immediately aggravated. This rule may appear to some to have been violated in Cases 7 and 8 in which there were present many of the symptoms of gastritis; but I entertain a different opinion. From the observation of a considerable number of cases, I am pretty well satisfied, that in hysterical females the interior of the stomach and bowels (and probable also of the head and chest) may become affected with the same increased sensibility, of a purely nervous character, which is so often observed in the integuments of the chest and abdomen of the same class of persons. These two cases I consider to be of this kind; they are distinguished from gastritis by several striking peculiarities. In the cases of hysteria, the pain is increased by cold drinks, and relieved by warm ones and by stimulants generally; the pulse and tongue are often unaltered; there is no feverishness, and generally there are other syptoms of hysteria present. This pain, which is often exceedingly troublesome and persistent, I have observed to be relieved much more by creosote than by any other medicine.

Secondly. The dose should be carefully regulated. If too large a quantity be given at the commencement, it is such a powerful local stimulant, that it will often be rejected, whilst a smaller quantity will afterwards be retained. It is best to begin with one or two drops dissolved in f.ʒj of distilled water, by means of a little mucilage. Again, if it be continued for some time, it is necessary gradually to increase the dose, and this is particularly required if it be used to retain some acrid substance on the stomach, and the dose of the substance itself is being increased.

Lastly. The dose should be repeated more or less frequently, according to the nature of the case. In most instances thrice a day will be sufficient; if it be employed in conjunction with another medicine, it should be given with each dose of that medicine, and in a few cases it will be necessary to repeat it at very short intervals, with the view of keeping the stomach completely under its influence.—*Lancet*, 1835.

STONE IN THE BLADDER CURED BY LITHOTRIPSY.

To the Editor of the Lancet.

Sir,—You will oblige me by inserting in an early number of *The Lancet* the following case of stone treated by lithotripsy. I am, Sir, yours very respectfully,

W. Jeaffreson.
Surgeon.

Framlingham, Aug. 9th, 1835.

Charles Levell, aged fifty-eight years, farming bailiff, living in the parish of Pulham, St. Margaret, Norfolk, applied to me on the 23rd of last May, in consequence of experiencing severe symptoms of stone in the bladder. He had passed at intervals, during twenty-three years, numerous small calculi and during the harvest of 1833, after much pain he passed one of the size and shape of a common horse-bean, but without deriving the complete relief therefrom which he had previously experienced on passing calculi. From this time his sypmtoms became progressively more urgent, inducing him to have his bladder several times, examined by his medical attendant, but without any calculus being discovered.

After injecting his bladder I had no difficulty in detecting the presence of a calculus. I soon also grasped it with the percussor, in what I believed to be its long diameter (measuring twelve lines), but after giving a few gentle taps with the hammer, it escaped from the instrument, and I did not think it right to do more on a first sitting. On passing the instruments through that portion of the urethra, which is immediately behind the pubes, I felt them more strongly embraced than usual, but so little inconvenience was experienced, that my patient, who had taken lodgings in the town, came to me on the 26th for another sitting; but, on attempting to introduce the instrument to enable me to inject the bladder, I could not pass that part at which I had before felt it unusually grasped. On examining *per rectum* I discovered an enlarged prostate, and after withdrawing the instrument somewhat I endeavoured to make its distal extremity describe a portion of the arc of a circle, as recommended by surgical writers; but, after trying this gently for a few minutes without effect, it occurred to me that it might be the third or posterior lobe of the prostate which presented the difficulty, and on sliding the extremity of the instrument gently behind the arch of the pubes, it passed into the bladder. Always giving it this direction, I never afterwards had any difficulty. At this sitting the calculus was crushed throughout its entire substance, and I afterwards crushed one of its largest fragments.

29. Three fragments were seized and crushed, and the patient brought with him a scruple weight of detritus, the result of the last sitting.

June 1. Crushed three or four fragments, and from this date until the 19th I repeated the operation every other day; but I then experienced difficulty, from the detention of a large fragment at the membranous part of the urethra. I accordingly immediately sent for Mr. Costello's improved urethral forceps, but before its arrival, I had succeeded in bringing away the fragment, with a modification of the polypus forceps, with reversed blades, which I had made for me in this town.

20. Severe rigor during the night, followed by erysipelas of the face; but this was not accompained by increased irritation in

the bladder. The erysipelas was treated on Mr. Higginbotham's plan, and receded most satisfactorily and on my evening visit I found him almost free from constitutional irritation, and that he had passed several large fragments from the bladder.

22. Repealed the operation, crushing four fragments. He brought with him sixty-two grains passed since the last sitting.

I repeated the operation on the 24th, 26th, and 29th of June, and on the 1st and 3rd of July, on which day I could detect only one small fragment, which was crushed. On the 4th he was called home to a sick wife, but he brought me a scruple weight of detritus.

22. Returned, bringing one small fragment, assuring me that he had lost every symptom of stone. After injecting and carefully examining the bladder I could detect no fragment.

24. Repeated the examination with the same result, when he left me quite well, taking with him ℥iv grs. vxij of detritus.—*Lancet*, 1835.

RECOVERY IN A CASE OF HYDROPHOBIA

AFTER

EXCISION OF THE BITTEN PARTS.

To the Editor of the Lancet.

Sir,—Should you consider the subjoined case worthy the notice of your numerous readers, you will oblige us by inserting it. We have the honour to be, your obedient servants,

T. Tomkin, Witham, Essex.

E. S. Varenne, Kelvedon, Essex.

August 9, 1835.

Lucy Farrer, ætat. 35, had a favourite dog, which became sickly about the middle of last June. It was restless and averse to food. On the 22nd, while she was coaxing the animal to eat and drink, it became irritable, snapped at and bit her in the little-finger of the right hand and walked away. The wounds, which were very trifling, becoming painful, were poulticed in the evening, and on the third day they healed. The dog was allowed to remain at large for the ensuing two or three days, and during that period bit a cat, to which he had previously been much attached, and snapped at one or two persons in the neighbourhood. At the end of a week, he, as well as the cat, were, unfortunately killed; not, however, before the throat and salivary glands of the dog had become enlarged, the flow of saliva much increased, and the eyes slightly inflamed.

About four p.m. of the 30th, the patient suddenly felt a pain in the back of the head, accompanied immediately by the appearance of a dark curtain, which seemed "full of bright spears" before the eyes, and which was followed by a slight loss of sense. This shortly disappeared, leaving a painful sensation in the left side. These fits were repeated at uncertain intervals for several successive days, but never without some uneasiness in the neighbourhood of the little finger. About the same time she had became averse to solid food and to drink, and this aversion along with the other symptoms gradually increased until the evening of the 5th of July, when she first applied for medical assistance. It afterwards transpired that on the preceding day she happened to be drawing some beer from a cask, when she suddenly became insensible and giddy, but immediately recovered on stopping the cock. It does not appear that the person who is the subject of the present remarks is of a nervous temperament or very irritable, but, on the contrary has always proved herself in her humble sphere of life to be a strong-minded woman. And although the dog was destroyed at her request, in consequence of a vulgar prejudice, neither fear nor dread induced the disease, because until the morning when she underwent the operation, she was perfectly unaware of the nature of her disorder, and had also previously reprimanded her fellow-servants for informing her fisrt medical attendant that she had been bitten, a subject she herself had refrained from mentioning, not considering it of sufficient importance.

July 5. Nine p.m. Pulse 80; eyes bright and rather prominent, but not tolerant of light; with slightly contracted pupil. Mind comfortable. Her chief complaint is of pain in the side. Bowels in their ordinary condition.

V. S. ad ℥ xvj. *Mist Aperientis* ℥iss, 6tis horis.

6. Four p. m. Bowels but little opened. Eyes and head somewhat relieved, though the aversion to solid food and drink continues. Has taken the medicine with difficulty, each dose having been followed by a convulsive fit. Arm and hand slightly mottled. Continuatur mistura.

7. Eleven a. m. To-day, at the express desire of the patient, Mr. Tomkin of Witham was called in in consultation. The aversion to swallowing and to the sight of fluids, and also the intolerance of light, are greatly increased. With some difficulty she was prevailed upon to take a little milk, which immediately produced spasm of the throat, and a fit, of which the following were the chief symptoms. A sensation of pain proceeded from the little finger across the back of the hand to the radial side of the fore-arm; thence towards the elbow, and along the inner side of the arm to axilla. It then followed its course up the neck in the direction of the sterno-cleido-mastoideus muscle, and was most intense immediately beneath the ear. Acute pain in the back of the head was next experienced, the dark cloud at the same moment appearing before her eyes, and she became senseless. The pulse, which had gradually quickened from the time of the fluid being presented to her, was now weak and fluttering; the face was flushed, the neck tumid and reddened; the salivary secretion was increased; the breathing was hurried; and the arms and head were thrown about in all directions. All this occupied about five minutes, after which she became gradually sensible, and then complain-

ed of severe pain in the side. There was no thirst of any consequence, but a constant burning in the mouth and pharynx, so that the passage of fluid was compared to "the hissing of water thrown upon hot iron." The pain undergone was described to be of the most violent description, and yet if asked to drink by either of her surgeons, she never positively refused to do so, much rather endeavouring than otherwise to overcome the great dislike she had to fluids. Mr. Tomkin suggested a trial of the liquor arsenicalis, and the use of unguentum veratriæ to the arm and throat.

℞ *Lig Arsinecalis* gutt. xv, lacte, stat. et repet, in dosibus guttarum x, 4tis horis.

8. Eleven a.m. On taking the medicine, the quantity of which did not exceed a tablespoonful, some severe fits of the same convulsive character were produced, followed by distressing tremor, and constriction about the chest. Says she has also felt very sick, but has not vomited. Has had several fits during the night without any apparent exciting cause, and four this morning since six o'clock. Forearm painful. One of the wounds slightly inflamed. With the concurrence of Mr. Tomkin the bitten parts were freely cut away by Mr. Varenne.

℞ *Lig Arsenic.* ℥v, 4tis horis; *Veratriæ* gr. vii; *Adipis* ʒiv. M. Brachis et coleo infricatus per sextam horæ partem.

9. Eleven a. m. Has had no pain in the fore-arm since the excision, and but one fit. She was senseles for twenty minutes during the night. The ointment, the entire quantity of which was applied in the evening, produced a general glow over the arm and neck, and seems to have been serviceable in allaying the pain of the throat, which pain has been constant for the last two days. Each dose of the medicine makes her sick. Aversion to fluids diminished.

Lig Arsenicalis gutt. ij, 4tis horis Rep. *Unguent.* Pars magnitud. nucis avellanæ partibus affecttis 4tis horis infricatur.

15. Since the 9th the patient has been gradually improving, though the process of deglutition is even at present rather painful, and the trickling of water cannot be borne without uneasiness. Her gums are swelling, probable from the effects of the arsenic, which she has been taking in the last-mentioned dose ever since. From the steady progress which has already been made towards recovery, there seems every chance of a permanent cure.

Aug. 10. Up to the present time there has been no return of the complaint.

All the symptoms of hydrophobia which this woman had, appear, to have arisen from nervous irritation, and not altogether from absorption of the virus, the pain being clearly traced along the course of the musculo-spinal nerve towards the elbow-joint, and from thence to the axilla, and afterwards to the brain. The case warrants, we think, the free excision of bitten parts at any period after an accident, as a practice likely ro prove the best prophylactic against the terribe disorder of hydrophobia, and also as one which ought to be adopted, if practicable, even when the disease has set in, until experience shall have decided upon its utility. Dr. Bardsley, of Manchester, in his able article on the subject in the "Cyclopædia of Practical Medicine," quotes a case, related by Professor Rust, where the wound was excised thirty-one days after the bite, and after hydrophobic symptoms had appeared, and where the patient's life was saved.—*Lancet*, 1835.

HOPITAL DES ENFANS MALADES PARIS.

CROUP.

In France the name of "croup" is confined exclusively to inflammation of the larynx and trachea, accompanied by a pseudo-membranous exudation. During the last five years this affection had been extremely rare at the *Hopital des Enfans*, and not more than three or four cases were observed; but it presented itself much more frequently in the course of the year 1835, during which we have observed no less than ten cases, affecting children from two to six years of age. The treatment employed in the majority of these cases consisted in the use of emetics, purgatives, local blood-letting, and cutaneous revulsives (blisters to the pole or front of the neck, to the superior or inferior extremities, &c.) The operation of tracheotomy was performed four times, and always accompanied by a momentary improvement in the symptoms, but the cases have nevertheless been fatal; in two patients death took place about thirty-six hours after the operation, once in forty-eight hours, and in the fourth, the fatal termination did not arrive before a lapse of eight days. In some of the cases above enumerated the diagnosis was attended with considerable difficulty: thus, in one case, we have seen a physician attached to the hospital mistake a real croup for an œdematous angina (*œdema glotidis*); we have also seen a case of simple inflammation of the larynx and trachea mistaken for croup; we shall report the latter case after having detailed one which did not present the slightest doubt, from the well-marked symptoms by which it was accompanied.

Case—*Child five years old. Cough and hoarseness at the commencement; emetic; amelioration for two days; then alteration of the timbre of the voice; croupal cough; expectoration of false membrane; two applications of leeches to the neck; frequent emetics. Death on the seventh day; membranous concretion in the larynx and trachea; puriform mucosities in the bronchi.*

Delorme Antoinette, a girl five years of age, of a good constitution, was siezed on the 21st of August, together with one of her sisters aged two years, with cough and hoarseness, and dyspnœa. A physician being called in, prescribed an emetic for both the children; the accidents increased rapidly in the case of the younger child, who died with the symptoms of croup in three days. The

elder sister felt some relief from the effects of the emetic, which persisted on the 26th and 27th, but on the following night she was seized with a frightful access of dyspnœa, which determined the parents to transport her to the hospital. On the patient's arrival she was immediately given an emetic, which produced copious vomiting accompanied by efforts to cough; in the midst of the matter thrown up was found a morsel of false membrane, organized, and as large as the thumb nail.

29. At the visit in the morning we found the child lying on the right side; the head thrown back; the face pale; the neck tender; the cervical glands on the left side engorged; pseudo-membranous concretion on the amygdala of the same side; respiration sifflante, twenty-eight per minute; fit of a hoarse dry cough; alteration of the voice, which is weak and barking; pulse accelerated; skin hot; intelligence perfect.

Ten leeches along the centre of the neck under the chin.

R. *Tart. Antim. et Potass.* gr. j.; *Syrop. Ipecacuan.* ℥ j. *Oxymel Scyllæ* ℥ ss. To be taken in three portions. *Tisan de Mauve; diete.*

The patient appeared to have been much weakened by the application of the leeches. The two first portions of the emetic draught were given, with an interval of a few hours; these produced some vomiting, and towards evening the child had several accesses of suffocation; the pulse rose to 160.

30. The child's state seems a little improved, she answers the questions addressed to her, asks for something to eat, and says she feels no pain anywhere. The timbre of the voice is still strong, and the respiration more sonorous than yesterday; cough croupy; pulse 120; respiration 30; tongue moist; the child has not been to stool for the last two days. Purgative lavement; four leeches to the neck; emetics; sinapisms to the lower extremities; milk. During the day the child was seized, from time to time, with fits of suffocation, which on the 31st were repeated almost without interruption, from five o'clock in the morning to nine o'clock, when the child died.

Body examined twenty-six hours after death.

General appearance of fat; skin pale; no cadaveric rigidity; injection of the vessels on the surface of the brain; gray substance natural; white substance somewhat injected; ventricles contain no fluid; the amygdalæ, the pharynx, and the epiglottis, do not present any appearance of a pseudo-membranous exudation, nor is the mucous membrane lining those parts of a colour remarkably red. The ventricles of the larynx are filled with a muco-purulent fluid, and below them we find the commencement of a membranous concretion, which extends as far down as the bifurcation of the bronchi; it is about half a line thick; the subjacent mucous membrane is red and thickened; the bronchi contain some purulent mucosities, but do not present any trace of false membrane. The mucous membrane of the stomach and intestinal canal is free from all injection or membranous concretion. However, several of the glandulæ solitariæ are developed in a very remarkable degree, without being injected. Nothing particular in the other viscera.

The symptoms by which this case was characterized were very clearly marked and evident—viz. alteration of the voice, croupal cough, respiration sifflant, false membranes on the amygdala, and also an expectation of organized membranes from the trachea. The greater part of these symptoms were absent in the following case, which was mistaken for *croup*:—

CASE 2.—SIMPLE LARYNGO-TRACHEITIS MISTAKEN FOR PSEUDO-MEMBRANOUS LARYNGITIS. —*Child three years old; pain in the throat after exposure to cold; then cough; hoarseness; dyspnœa; sonorous respiration; access of suffocation. Death; redness of the lower part of the larynx, trachea, and bronchi; no false membrane.*

Garope Adele, three years of age, a child remarkably fat and well-looking; never had any previous illness, except a mild small-pox in her infancy; had been three days ill when she was brought to the hospital on the 10th of August last. According to the account given by the mother, it would appear that this young child, after having amused herself all day on the 8th on the banks of the river, was seized with hoarseness and cough in the evening on returning home. These symptoms persisted the following day; the appetite seemed then diminished, but on the night of the 9th the infant was seized with fits of suffocation, which made the parent believe she would suffocate every moment. The fits did not continue the next morning, but as the cough, hoarseness of voice, and dyspnœa, increased, the patient was brought to M. TROUSSEAU, who declared that she was affected with croup, and immediately sent her to the Hopital des Enfans Malades, with a written invitation to the person on duty to practise as soon as possible the operation of tracheotomy; he also obligingly sent a box of instruments, lest the interne might not be furnished with everything necessary for the operation.

Immediately after the child's arrival at the hospital, the back of the mouth and throat were examined, and nothing was observed except some redness and tumefaction of the amygdalæ. The hoarseness of the voice and cough showed clearly enough that the inflammation had extended to the air-passages; but there was, at the same time, every reason to believe that the inflammation of the larynx and trachea was of the same nature as that observed in the throat; ten leeches were accordingly applied on the sides of the larynx. A simple lavement given, and mustard poultices applied to the lower extremities. The child slept very profoundly during a great part of this night.

August 11. We saw the child to-day for the first time; the face was moderately coloured; the position of the child in bed varied; the intelligence was perfect; she spoke

to her parents who visited her, and entreated to be taken home. The voice and cough were hoarse; the inspiration sonorous, but not sifflant, thirty-six in a minute; deglutition easy; the redness and tumefaction of the amygdalæ are somewhat diminished; skin warm; pulse accelerated, but we cannot count it, from the restlessness of the child.

℞. *Tartar. Antim. et Potass.* gr. 1.; *Ipecacuan.* ℥ss in four parts; mustard poultices to legs. *Diete.*

Momentary calm after the vomiting. In the evening a few fits of dry hoarse coughing, and dyspnœa.

12. Face is more coloured; the child affects the upright posture; the inspiration continues sonorous, and is heard at a good distance from the child; the voice is hoarse, but does not resemble the voice of croup; the cough at times resembles the barking of a small dog; when asked where she suffers, the patient sometimes says in the neck, sometimes in the belly; there is no appearance of false membrane in the back of the throat; the redness of the palate and amygdalæ are much diminished.

Sulphur, sublimed and washed, ℈j; *Sugar* ℥i; in six doses. Same emetic as yesterday, to inspire the vapour of sulphuric ether.

This day was passed quietly, but towards evening agitation and dyspnœa.

13. The cough, voice, and respiration, present the same characters as during the former days; the anxiety of the patient is somewhat increased; the sulphur and emetic powder were continued, and a large blister was applied to the anterior and superior surface of the thorax; the neck was rubbed with an ammoniacal lotion; during the day abundant diarrhœa.

14. At the moment of the visit the patient was in a profound sleep; on awaking she made some efforts at coughing; the cough is more moist than yesterday, and is followed by some expectoration of a matter produced in the œsophagus. We observe some little anxiety, some grinding of the teeth, but nothing announces an approaching termination of the disease. The stools are extremely frequent, and the matter passed is clear, like water. The abdomen is painful to pressure; nothing remarkable took place in the course of the day or night, but at seven o'clock in the morning the child was suddenly seized with a fit of suffocation which carried her off before anything could be done for her relief.

Body examined twenty-four hours after death.

Exterior Habit.—Considerable embonpoint; purplish tint of posterior part of trunk, and of upper part of chest and neck. The dissection was commenced by dividing the lower jaw; the cavity of the mouth was then examined with care, and no alteration discovered. The amygdalæ were as large as a small filbert; they do not exhibit any inflammatory injection either externally or internally; the velum palati healthy; pharynx of a violet colour; the mucous membrane of the epiglottis and superior part of the larynx are pale and not thickened. We do not observe any trace of false membrane or ulceration. The inferior moiety of the larynx and the traches are red; their lining membrane thickened; the same lesion is found in the bronchial tubes of large calibre, which, moreover, contain some purulent mucosities. The left lung adheres at the summit to the pleura costalis for the extent of about a twenty-sous piece, and at the level of this adhesion the pulmonary tissue contains a cretaceous tubercle of the size of a pea; the remainder of the superior lobe is soft and crepitant; the inferior lobe is slightly engoué; right lung healthy; heart and pericardium free from alteration.

Abdomen.—The mucous membrane of the stomach, of a white rosy tint, presents everywhere a good consistence; the small intestines show here and there some patches of injection, and contain a single lumbricus; in the colon, deep red injection, disposed in striæ very closely applied to each other, with ramollissement of the mucous membrane. Nothing worthy of notice in the other viscera.

From this latter fact, to which we might add several other analogous ones, we think ourselves justified in concluding,—

1st. That the diagnosis of croup occasionally presents many difficulties at the bedside of the patient.

2nd. That we ought not to decide on performing the operation of tracheotomy without a full and careful examination of all the symptoms; for this operation is, to say the least, useless in cases where no false membrane exists.

3rd. That simple inflammation of the trachea and larynx may give rise to fits of suffocation, which resemble closely enough those observed in the pseudo-membranous laryngitis or true croup.

We may observe, in conclusion, that in the case just reported, the error of diagnosis was not without prejudice to the patient; for if the physician, instead of giving repeated emetics, which perhaps gave rise to the inflamatory condition of the colon observed after death, had repeated the sanguineous emissions, under whose influence the inflammation of the throat was dissipated, he might also have been fortunate enough to subdue the analogous inflammation of the air-tubes.

MENINGITIS.

Inflammation of the membranes of the brain is a disease much more common at the Children's Hospital than at any of those consecrated to the reception of adults. This affection, considered under the double relation of its march and antomical character, presents itself in infancy under two forms that are sufficiently distinct. On the first, the inflammation of the cerebral membranes is, in most cases, *primitive* and *acute;* is developed under the influence of *appreciable causes* (such as blows on the head, &c.); passes rapidly through its different stages; and when death supervenes leaves, as pathological characters, serous, sero-purulent, or sero-albuminous effusions in the piamater, ventricles, or (*much more rarely*) in the grand cavity of the arachnoid.

In the second, which is so much more frequent at the French Hospital for Children, that it may be regarded as the type of the disease, the affection commences under a *chronic* form, and does not become *acute* until a period more or less near the fatal termination; but when the *acute* stage commences, both forms exhibit symptoms so analogous as not to be distinguished by any means that we as yet possess. This form attacks principally scrofulous patients, and presents for anatomical characters, the existence of whitish or yellow-white, tubercular granulations, varying in size from a millet-seed to that of a rape-seed. These granulations are always found in the pia-mater, where they are sometimes disseminated, sometimes conglomerated, so as to form spots of more or less magnitude, which compress the cerebral substance, and are frequently united with it in a very close manner.

We would denominate the first form, *simple acute meningitis*, and would consecrate to the latter a new term (which sufficiently designates its most essential character), *tubercular meningitis*, or, in popular language, *scrofulous hydrocephalus*.

The two following cases offer examples of the first of these forms. In a succeeding Number we shall give examples of the second, or tubercular disease :—

Case I.—ACUTE MININGITIS OF THE CONVEXITY.—*Patient aged six years, headache; general malaise; delirium; afterwards convulsions; loss of speech; stupor; coma; local blood-letting; blister to the neck. Death on the 16th day of the disease; opacity and thickenning of the arachnoid on the convexity of the brain; serous infiltration of the pia-mater, sufficiently abundant to distend the convolutions.*

Adelaid Baldy, six years of age, of a feeble constitution, after having passed the whole of the 7th of June exposed to the rays of the burning sun, returned home in the evening with headache, and pains in the limbs, which persisted on the 8th and 9th. During the night she was unable to sleep was agitated, and had some delirium. On the 10th some convulsive movements appeared, with trismus, stravismus, and grinding of the teeth. The convulsive symptoms ceased after the expiration of a few hours, and returned again two days afterwards. From this time up to the 17th, the day of her reception into the hospital, loss of speech, stupor, constipation; no bilious vomiting; the patient merely threw up some spoonfuls of tisan. On the 9th, some leeches were applied to the epigastrium; and on the 12th, a blister between the shoulders: the child had also some refrigerating draughts, and simple enemata, and sinapisms had been placed daily on the lower extremities.

June 17th (10th day of the disease). The child presented the following symptoms:—Decubitus dorsal; no renversement of the head backwards; face full; eyelids half open, pupils moderately dilated and moveable; no strabismus; sight preserved. The patient is in a state of stupor, and does not answer any question put to her; shows her tongue when bid, and then falls again into a state of stupor; sensibility of the skin is dulled, but equal on both sides of the body; automatic movements of the left arm, which the patient carries constantly to the nose; the other members are numbed; grinding of the teeth from time to time; the tongue is moist, and covered with a grayish coat; deglutition easy; no vomiting; abdomen indolent; no stool for the last twenty-four hours; pulse 108; respiration 30.

Emulcent decoct.; eight leeches, two to each temple, and two behind each ear; sinapisms to the feet; frictions with acetic ether on the limbs.

During the day constant stupor; the patient does not speak a single word; passes her urine involuntarily.

18. The stupor is less marked; the child answers in monosyllables to some of the questions put to her; makes an effort to show her tongue, but is unable; no convulsive movement; no paralysis; pulse 120; inspiration 36; dry cough from time to time.

Continue remedies, without the leeches.

19. No remarkable change in the symptoms.

20. No answer to questions addressed; low groans from time to time; patient puts out her tongue, which is dry, and presents some aphthæ on the surface; some diarrhœa has set in, and the abdomen is painful to pressure; pulse still 120; face very dull. To-day the appearance of the patient, and the symptoms which she presents, are very much those of a child labouring under typhus fever.

Frictions with Camphor Oil on abdomen—on the limbs with Acetic Ether; tea-spoonful of Sulphuric Ether internally.

22. The diarrhœa has ceased, and the stupor has become more deep. Some convulsive movements of the face; no acute cries (called *hydrencephalic* in France); no delirium; the child sighs from time to time; pulse 116. *Blisters to the lower extremities.*

23. At eight o'clock, general convulsions; at nine o'clock, permanent contraction of the right arm, which is demiflexed; carpology in the left wrist; inferior extremities in a state of relaxation: mouth deviated to the left side; pupils dilated and oscillant; strabismus; trismus; two involuntary dejections since the visit; pulse 130; respiration 30.

Three Leeches behind each ear; Blister to the neck.

After the application of the leeches, general convulsions set in; the trismus was so complete, that a single spoonful of liquid could not be introduced into the mouth. Death at six o'clock p.m.

Body examined thirty-six hours after death.

Skull well formed; dura-mater healthy; spacity and milky colour of the arachnoid which lines the convex surface of the hemispheres; under this membrane we find a quantity of troubled serum, sufficiently abundant to form a layer, some lines in thickness, between

the membranes and cerebral substance; the quantity of this serosity was so great as to distend the anfractuosities, and even separate the convolutions from one another. The arachoid, which is thickened, may be detached in layers from one to two inches long, and the pia-mater is not adherent to the cerebral substance; in the parts in contact with the liquid the substance is pale, and seems to have undergone a kind of maceration. The cortical substance is pale and not firm; the fluid effused under the membranes is more abundant on the left side than on the right, and posteriorly more than anteriorly. The membranes lining the base of the skull do not present any alteration. The ventricles contain only a spoonful of clear serum; the central portions of the brain preserve their normal colour and consistence. The rest of the brain and cerebellum is healthy.

Chest.—Old adhesions between the right lung and the pleura costalis; the lung is of a rosy colour externally, soft and crepitant, does not contain a single tubercle. Bronchial glands, heart, and pericardium, healthy.

Abdomen.—The stomach presents some small red bands parallel to its great curve; the rest of the mucous membrane is pale. The portion which lines the great curvature is in contact with a fluid resembling wine-lees, in colour, of an acid smell, and is softened; intestinal mucous membrane is pale, and of the natural consistence. The glandulæ and solitariæ are scarcely apparent. The mesenteric ganglia are healthy.

CASE 2.—ACUTE MENINGITIS OF THE BASE OF THE BRAIN, WITH EFFUSION INTO THE VENTRICLES, AND SOFTENING OF THE CENTRAL PARTS.

(The "Acute Hydrocephalus" of Abercrombie.) Male, three years. After some days of malaise, intense headache, with bilious vomiting for four days; convulsive movements of the muscles of the face; somnolence; sighing respiration; coma; renversement of the head backwards. Death the fifteenth day; seropurulent infiltration of the pia-mater at the base of the brain, effusion into the ventricles; softening of the central parts.

Auguste Colson, three years of age, having the skull and thorax malformed, exhibited for a few days malaise, dulness, and a disinclination for movement; when on the 29th of August last, without any known cause, he was seized with very severe headache and bilious vomitings. These symptoms persisted for four days On the 31st, some convulsive motion of the muscles of the face and limbs; obstinate constipation for the first three days. No active treatment pursued.

On being carried to the hospital, the 1st of September 1835, we observed the following symptoms at the visit of the 2nd.

Child is in a demi-somnolent state, interrupted by low cries now and then; face alternately red and pale; eyelids closed; eyeballs prominent, sensible to the light; pupils seem moderately dilated; senses of seeing and hearing intact; does not answer when spoken to; sensibility of the skin is greatly exaggerated; the least touch makes the child cry out; equally so at both sides of the body; no stiffness or paralysis of the limbs; the left eyelid contracts strongly when we endeavour to examine the eyeball; the other opens with the greatest ease, as if it were paralysed; pulse slow and intermittent, 64; respiration unequal, mixed with sighs, 36; skin moderately warm; tongue natural; one copious vomiting this morning; constipation persists; abdomen supple, is very sensitive to the touch; emission of urine involuntary.

M. GUERSENT diagnosticated a meningitist of the base of the brain, and prescribed a large blister to the head, a laxative enema, and an emulcent drink.

3. The blister has acted with sufficient energy; the pulse continues slow and intermittent, 56: the respiration is somewhat more accelerated than yesterday, 40; the cerebral symptoms noted yesterday persist, and we now notice that the left side of the face is much less developed than the right, as if from retraction of its muscles; same condition of muscles of eyelids as yesterday; no strabismus constipation persists in spite of the enema. The child appears less cross than yesterday.

Oxymel; Mustard Foot-bath; Purgative Enema; keep open the Blister.

4. The face colours brightly whenever the child is excited; the drowsy state persists; machonnement now visible; no convulsion or aralysis of the limbs; same state of eyelids as before; and we now find that the right cheek is less sensible than the left, and that the right pupil is a little more dilated than the left; no acute cries; pulse is less irregular than yesterday, 72; respiration unequal. 54; the abdomen still very sensible to pressure; the right arm is less sensible than the left; legs equally so. Three stools produced by the enema; the skin is now very warm, almost burning hot. In the evening an exacerbation; pulse 116; skin much more warm than in the morning of the 3rd.

5. The child is not much assonpi, as during the former days; does not evince the same sensibility when touched; abdomen not so tender as before; he sighs from time to time; skin not so warm as yesterday; pulse 112, very irregular; respiration very unequal, 32 to 36; one stool; same alternations of flushing and paleness; general sypmptoms the same as yesterday. In evening at four o'clock, a slight exacerbation, which lasted till five o'clock. *Continue remedies.*

6. To-day the child is able to sit up in bed without support, and there was but little stupor during the night; the left cheek is now very much flushed, the other one pale; the abdomen is still slightly tender; two liquid yellow stools; pulse varies from 112 to 124, is regular; respiration quick, regular, 52; skin warm; pupils moderately dilated; we still observe the peculiar sighing from time to time.

Oxymel; simple Enema; Foot-bath: suppuration to be kept up. Diet.

7. Child lies quiet in bed; eyelids wide open; very little stupor: same alternate flushing of the left cheek only; same contrac-

tion of left, and complete relaxation of their eyelid; skin warm; pulse regular, 106; right cheek is less sensible than the left when we pinch them with the nails; right arm seems relaxed, for when we raise it up, it drops down deadly on the side; the angle of the mouth seems a little prolonged towards the left side; no convulsive motions or cries.

Oxymel; Calomel, gr. iv; *Purgative Enema if required. Diet.*

9. One small stool after the enema; pulse regular, 104; respiration from 34 to 36; thirst; but little change since yesterday; skin warm; not much stupor; same state of eyelids as before; no vomiting since the first one; no convulsive movement; no rigidity or relaxation of the limbs.

Oxymel; Calomel gr. vi; *Purgative Enema if necessary,*

Immediately beneath the above notes (which are here much curtailed), we find the following observations in our *portefeuille:*—

"If we had seen this child to-day for the first time, and had not known the history of the case, or observed the symptoms and their march very closely, we should have found it extremely difficult to form a diagnosis. The stupor or sleepiness peculiar to meningitis was now barely perceptible; the pulse and respiration had now become regular, and very nearly natural; they were not *slow*; in fact there was no symptom of cerebral disease to be observed, except the constipation, the difference, so well marked, of contractility between the two eyelids, and the difference in bulk between the sides of the face, which latter symptom, besides, might very easily have escaped notice, as it was not striking. We confess the appearance and state of the child to-day have much staggered us; however, from a consideration of what has preceded, we find ourselves compelled to conclude, that he *ought* to have meningitis, and that in consequence the case will be fatal."

9. No cries during the night; no vomiting; no stool. When we came into the ward we found the child sitting up in the bed, without any support, and presenting a sufficiently natural appearance. The face is pale; no flushing now observed; no convulsive motion of face or eyes; some grinding of the teeth; skin cool; pulse small, sharp, regular, and equal, 134; the right arm has to-day recovered its motion,—on the contrary it feels a little stiff; child still sighs occasionally; respiration quite regular, 32; thirst; deglutition is quite easy; abdomen tender to pressure; no phenomenon of motility, or change in sensibility of limbs.

Oxymel; Calomel gr. viii; *Purgative Enema.*

10. To-day is a litte sleepy, but not so much so as in the first days; two stools; no cries; face pale; no change of colour remarked for last two days; skin very little warm; pulse regular, 120; respiration quiet and regular, 38; some contractility of left orbicularis muscles, which prevents us from examining the state of the pupil; right one, though now slightly contractile, is easily opened; no contraction or relaxation of extremities, or vigidity of trunk; abdomen neither ballonne nor retracted, tender.

Oxymel; Calomel gr. ix; a little rice. At three o'clock p.m. a slight exacerbation.

11. Stupor; a little sighing from time to time; face pale; no change in its colour; both orbicular muscles to-day contract most powerfully when we attempt to open the eyelid; pupils very slightly dilated; skin cool; pulse very small, 130 to 140; respiratioa very irregular, 22; right arm now cannot be flexed easily, and left arm cannot be extended; three stools; abdomen tender. *Remedies as before.*

12. During the day, yesterday, the child became quite stiff at different times; during the day also he frequently carried his hand to the head, but uttered no complaint; now lies quietly on back; lids open; eyes rolling upwards; upper extremities stiff, as also the right lower one; pupils dilated, immoveable; conjunctivæ injected; pulse very small, 140; respiration 36; face very pale; skin cool,

Death at five o'clock a.m. on the 13th.

Body examined on the 14th at nine o'clock.

The *spinal marrow*, which was the part first examined, presents a natural appearance Nothing observable except some injection of the membranes at the inferior part.

Brain examined from bellow upwards. The membranes covering the right side of base not more injected than natural; on the left side the whole blunt end of the middle lobe, immediately behind the fissure of Sylvius, presents, for the space of two to three inches long by a half broad, a straw-coloured infiltration under the arachnoid; here the membranes are adherent and thickened, but the membranes themselves here, or in the surrounding parts, do not exhibit the red vascular appearance of recent inflammation.

On the upper surface of brain the difference between the appearance of the two hemispheres was most remarkable; on the right side the injection of the vessels of the pia-mater was moderate, perhaps a little more than natural: on the left side the whole surface of the hemisphere is covered with fine vessels, and between the convolutions the trunks ascending from the base of the brain are excessively gorged with dark blood; here and there we observe some rosy spots under the arachnoid, as if from the infiltration of bloody serum. The medullary substance of the left side is also much more injected than that of the right. We do not observe any granulations in the pia-mater.

The ventricles are considerably developed posteriorly, and contain about three ounces of clear serum. The inferior surface of the corpus callosum, the fornix, septum lucidum, &c., are very much softened, and reduced to a pulp; the floor of the ventricles is of a pinkish hue. Cerebellum and medulla oblongata healthy.

Lungs healthy—merely some tubercular matter in the bronchial glands.

Abdomen not examined.

In this last case a blister to the head was the only treatment employed; but we are not to conclude that M. Guersent has recourse to no other means. We have repeatedly seen

him try bleeding, especially local purgatives, and a long-continued stream of cold water on the head (for eight days without intermission): but as *all* those cases in which blood letting was employed terminated fatally, he wished to observe the march of this affection under the influence of other remedies.—*Lancet*, 1835.

ON FRACTURE OF THE PATELLA; WITH A DESCRIPTION OF AN INSTRUMENT PROPER FOR ITS TREATMENT.

To the Editor of the Medical Gazette.

Sir,—I send you the description of an instrument for treating fractures of the patella, by which the direct apposition of the two portions of bone can always be obtained, and the length of ligamentous union prevented, which is so often found to exist after this kind of injury, where the ordinary treatment is employed. If you can insert it in your valuable Journal, I shall feel obliged.

I remain, sir,
Your obedient servant,
EDWARD F. LONSDALE.

8, Berners-Street,
Oct. 9, 1835.

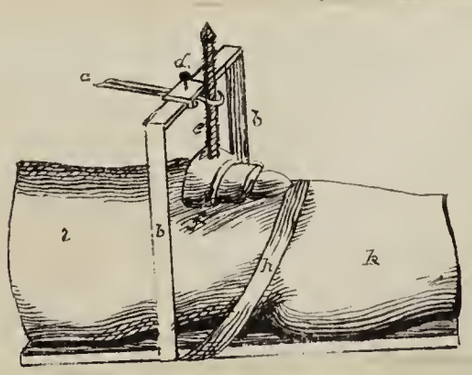
The difficulty in treating fractures of the patella, by the ordinary method, depends upon the great degree of constriction it is necessary to make round the whole joint before a fixed point can be gained for the bandages to act upon, in order to bring the two portions of bone into contact; the consequence of which is, that the joint is unable to bear the pressure and becomes swollen and painful, rendering it necessary to discontinue the bandages altogether, or else to slacken them so much, that all purchase on the bone is lost; and the muscles are then allowed to act upon fractured portions, and produce separation between them, the upper portion being drawn from the lower.

It often happens that swelling of the joint comes on immediately after the fracture, making it quite impracticable to employ the ordinary mode of treatment at an early period, and rendering it necessary to wait some time before any pressure can be made upon the part, or before any attempt can be made to approximate the two portions of bone; the consequence of which is, that much time is lost that is important for the production of bony union; and the muscles having contracted to a great extent, have become adopted to their new situation, and are liable to yield afterwards when extension is mane upon them, rendering it quite impossible to bring the upper portion of bone sufficiently down to the lower, to lie in contact. Ligamentous union is then a necessary consequence.

A case occurred lately at the Middlesex Hospital, in which the least attempt to approximate the two portions of bone by the ordinary treatment of placing the two lateral slips of bandage on either side of the patella, and confining them by a circular bandage and compress, placed above and below the bone, could not be borne, but caused so much pain and swelling of the joint, that it became necessary to discontinue the pressure at two or three different periods; the consequence of which was, that at the end of a month no approximation of the two portions of bone was effected, but a distance of nearly three inches remained between them.

It occurred to me some time ago, that an apparatus might be contrived by which the upper portion of bone could be brought down to the lower, by making pressure immediately above the bone only, and leaving the rest of the joint free, and unexposed to the constriction necessarily produced by the ordinary mode of treatment. The above case appeared to afford a good opportunity for trying the instrument that I had previously thought of, which I accordingly had made; and with the permission of Sir Charles Bell, under whose care the patient was, I applied it.

It consists of a thick wooden splint, which is placed behind the knee, long enough to pass half way up the thigh, and half way down the leg, and sufficiently wide to extend beyond the knee on either side. From a little above the centre of the splint, a bar of iron, about half an inch thick, is thrown across, so as to form a square or arch, which surrounds the joint, but does not come in contact with it; leaving a space of about three inches above the knee, and of about an inch on either side of it, so that the upper and lateral parts of the joint are free from all pressure. Through the central part of this square a flat bar slides backwards, and forwards and is perforated at its extremity to admit a vertical screw, to the lower end of which is attached a horizontal plate, wide enough to extend an inch on either side of the patella, and slightly hollowed anteriorly, to fit the upper convex margin of the bone. The object of this part of the apparatus is to press immediately above the patella, and so fix the upper portion of bone, which, having been previously brought into contact with the lower, is kept there, and prevented being drawn up the limb by means of the sliding bar, which is fixed by a small screw made to turn upon it. The annexed drawing represents the instrument, and its application to the knee.



a a, The wooden splint applied to the back of the knee, extending half-way up the thigh and down the leg.
b b, The iron bar forming the square or arch round the joint.
c, The sliding bar fixed by the screw *d*.
e. The vertical screw which presses upon
f, The horizontal plate.

g, The patella fractured, illustrating the manner in which it is fixed by the plate *f*.
h, The strap fixing the lower portion of the bone.
i, The thigh.
k, The leg.

It is applied as follows :—The muscles attached to the patella are to be relaxed, as, in the ordinary treatment, by extending the leg and raising the heel and soulders of the patient, so as to flex the hip-joint. The limb is then to be placed upon the back splint *a a*, which is done by passing the foot through the square formed by the bar *b b*, having previously elevated the vertical screw *e*. The upper portion of the pattella is then to be drawn down close to the lower, and to be held there, care being taken that the integument is not pulled with it, so as to be included between the two portions of bone. The sliding bar, *c*, is now to be fixed at such a point, by means of the screw *d*, that the vertical screw *e*, when turned down, may cause the horizontal plate, *f*, to press : not upon the patella, but immediately above it, so that, if the pressure be sufficient, it will lie at a lower level than the bone, and prevent the upper portion being drawn up the limb. The lower portion requires but little fixing; it may be done by the strap *h*, with a small compress of lint placed between it and the bone. The splint itself is steadied by the weight of the limb, but an additional security may be given by attaching a bit of bandage to either side of the splint, and passing it under the sole of the foot. It will now be seen how the retraction of the upper portion of bone is prevented, by means of the horizontal place ; for if the sliding bar be firmly fixed, it cannot be pushed upwards without the whole apparatus goes with it, which is prevented by the bandage that passes under the sole of the foot, and by the weight of the limb pressing upon it.

The advantage of this mode of fixing the patella is, that the pressure employed is confined to so small a part of the joint, and is applied to the part that is best able to bear it, namely, upon the thick tendon formed by the extensor muscles of the thigh. The rest of the joint is left quite free and unexposed to pressure, and open for the application of local remedies; while in the ordinary treatment the whole joint is necessarily confined and constricted to as great extent, by which any inflammation that may arise is increased, and the employment of local remedies, as leeches, &c. as prevented, without removing all the bandages, when the apposition of the two portions of bone must be disturbed, and an additional evil produced.

By the mode of treatment now recommended, the portions of bone may be brought into contact immediately after the injury ; for the swelling that takes place is mostly at the lateral and inferior parts of the joint, which parts are now free and unconfined.

The important point gained in this, as in other fractures, by the early approximation of the two portions of bone, is, that union can be effected at a much earlier period, and a more direct apposition of the fractured surfaces obtained, than can be the case where the two portions of bone are allowed to remain a long time before they are brought into contact, owing to the state of the joint being such as not to bear pressure generally upon it to the extent produced by the ordinary mode of treating fractures of the patella. This early approximation of the two portions of bone, then, can be obtained by the splint now recommended; for as the pressure does not confine the joint, any swelling that may arise will be free and unconstrained, and not require the removal of any part by which the apposition of the portions of bone will be disturbed.

The advantage of the splint was shewn in the above case, for it could be borne from its first application, although the joint would not bear the pressure produced by the ordinary treatment. The two portions of bone, however, could not be brought into direct contact ; nor was this to be expected in this case, for the fracture had existed a month before the splint was applied ; during which time the parts around the bone had become thickened, and no doubt ligamentous union already commenced, which would of course prevent the fractured surfaces being brought into immediate contact. The two portions of bone, however, were brought so near, that a distance of only half an inch existed between them, the distance at first being nearly three inches.

I have no doubt that when the splint can be applied, at an early period, the portions of bone can be brought into direct contact, and so offer every chance for the production of bony union, the absence of which, in almost every case of fracture of the patella, renders this kind of injury of so serious a nature, by depriving the patient of the free use and strength of the limb, and causing lameness for life.

NORTH LONDON HOSPITAL.

COMPOUND DISLOCATION OF THE ANKLE WITHOUT FRACTURE.

William Broughten, aged 21, was admitted July 16th, under the care of Mr. Liston. He was one of the men who were working in a tunnel of the London and Birmingham Railway, when a heavy load of clay fell upon the labourers. He observed the mass of earth giving way, and attempted to retreat, but in doing so his foot got entangled under one of the slippers of the railway, and he was crushed. When brought into the hospital he was in a state of collapse, the skin was rather cold, and covered with a copious sweat. Both thighs were much contused about the middle and upper parts ; the right was much swelled on the outer side, where there was a small wound of some depth, which admitted the little-finger. There was transverse wound about three inches long, which exposed the cavity of the joint over the external malleolus, which projected about one inch and a half.

The foot was very much inverted, and was placed almost at right angles. The internal malleolus rested on the inner side of the astragalus, the articular surface of which was seen through the wound.

After a most careful examination by Mr. Duncan, the house surgeon, no fracture could be detected. The dislocation was very easily

reduced by extending the foot and everting it —it was put on McIntyre's splint; and as soon as the oozing from the wound has ceased, the edges were approximated by isinglass plasters.

Aug. 3. Going on well; a small abscess which had fromed on the upper part of the foot was opened to-day.

Mr. Liston remarked that this was rather an uncommon case, considering that the displacement had occurred to such an extent without the breaking off of either of the malleoli. He referred to several simple luxations of this joint, some under treatment, in which fracture of one or both bones near their extremities had taken place. In speaking of the state of the patient on his admission, he warned the pupils against committing a very common and serious error, one occasionally followed by serious consequences; namely, the abstraction of blood immediately on the receipt of a severe injury, Paragraphs often appear he said in the public prints, in which it was stated that persons who had been dreadfully wounded and mangled were taken to a surgeon's and bled, notwithstanding they were not expected to recover. Some did live in spite of such an unjustifiable proceedings but many who undoubtedly would otherwise have recovered, perished speedily in consequence of the loss perhaps of no great quantity of blood whilst in a state of collapse, the circulation being almost suspended. In such cases time should be given, and powerful means must often the resorted to, before the circulating system could again be brought into action, when, and not till then, bleeding might be advantageously practised. He did not anticipate any unfavourable event in the present case. In fact, in cases where the bones were so very much broken and comminuted as to demand their free removal by the saw, it happened that very little constitutional disturbance followed, the limb being preserved strong and useful. The injured part was put up differently from those cases of simple luxation that had come under the notice of the pupils now attending. The part secured in a good position on the splint employed, and great facility was at the same time given for attending to the wound, and observing whatever changes might occur in it.

TRACHITIS AND LARYNGITIS.

Margaret Holder, aged 32, was admitted 31st of July, under the care of Dr. A. T. Thomson. In February last she caught cold, from the effects of which she suffered continually, with cough and hoarseness. She was bled twice a week for three weeks, and took medicines with some benefit; but about a month ago she contracted a fresh cold, the symptoms of which have been gradually getting worse. At present there is a wheezing inspiration, with a crowing sound on coughing or speaking, difficulty in breathing, with pain along the course of the trachea; scarcely any expectoration, and the little that does come up is frothy; the mucous membrane of the mouth and fauces is scarcely redder than natural; the throat is very tender to the touch; there is sonorous respiration at the upper part of the chest. Pulse 90, full. Tongue dry and furred. Dr. Elliotson, in Dr. Thomson's absence, ordered her to be bled to approaching faintness; twelve leeches to be applied to the neck above the strenum, and five grains of calomel to be given every hour.

August 1. Blood slightly buffed and cupped, breathes much more freely in coughing; fifteen leeches over the larynx.

3. Was bled again yesterday to syncope; blood much buffed and cupped; the bleeding excited vomiting.

5. Mouth very sore; tenderness of the throat nearly gone. No cough, wheezing, or crowing noise. Can inspire freely without inconvenience. Discontinue the calomel.

6. Has had profuse diarrhœa, which was relieved by a mixture of chalk and kino.

10. Nearly well; to be discharged in a few days.

CHRONIC GASTRITIS.

Anne Kertland, aged 18, was admitted July 21, under the care of Dr. A. T. Thomson; she has always enjoyed pretty good health until three weeks since, when after much exercise during the day, she was suddenly seized in the evening with a shooting pain over the precordial region, between the fifth and sixth ribs; this pain increased in severity, and extended over a large surface, chiefly over the heart and the left hypochondriac region. On standing or sitting up, she feels giddy. On taking solid food she has pain; but neither hot or cold drinks affect her. There is frequently nausea, the bowels are costive, appetite there is none.

Just before her admission she took an aperient, and applied a strengthening plaster to the stomach; the first gave her slight relief by opening the bowels, the other increased the pain. The pain in the side on inspection, and when pressure is applied, is more acute. During the last fortnight, in addition to the other symptoms, she has suffered from a severe shooting pain extending from the knee to the hip; this was so severe last night that she could not sleep. Pulse 85, full; tongue moist, with a whitish brown fur in the middle; respiratory murmur natural; catamenia regular.

Dr. Elliotson, in Dr. T.'s absence, directed her to be bled to ℥x, and to have a blister on the right side. Five grains of calomel every night.

24. Blood not buffed; the bleeding relieved the breath; she can take a deep inspiration much more easily; the tenderness on pressure at the left side continues.

28. The mouth being sore, the pills were omitted yesterday, and two minims of the hydrocyanic acid in an ounce of water were given three times a day.

30. The medicine has rather affected the head; she is otherwise decidedly improving.

August 4. Discharged well.—*Lancet*, 1835.

ESSAI SUR LA COLIQUE DE PLOMB.

These de M. A. Grisolle, Interne Hotel Dieu.

This essay is one of those productions which from time to time reflect so much credit on

Paris as a school of medicine. It is not a simple thesis, written for the mere purpose of obtaining a diploma, but a profound investigation of a subject which has often occupied the serious attention of practitioners, without receiving too much light from their researches. M. Grisolle is a pupil of the Louis school, and the thesis now before us is a proof of the immense superiority derived from a careful and accurate examination not only of the symptoms generally attributed to any particular disease, but of all the symptoms which the patient may present during the course of his malady. Pursuing this method, M. Louis and his school have not only arrived at the discovery of several principles which had been overlooked, from time immemorial, from want of attention and corolleration, but they have also thrown an immense light on symptomatology and diagnosis. M. Grisolle's thesis consists in an analysis of fifty-eight cases of painter's colic observed by him with minute attention at the *Hopital Beaujon* during the year 1834. We shall notice some of the most interesting facts which he has established.

M. Chomel is of opinion that painter's colic is much more frequent in summer than in winter, and attributes this difference to the greater activity of the works in lead during that season; but in a manufactory, where the same number of workmen were employed the whole year round, the author found the average proportions as follows:—for the warm months (May, June, July, and August) 103; for the middle season 93; for the cold months (November to February) 89.

The age seems to exercise a certain influence on the susceptibility of contracting the disease, for if we divide the ages of those received into the hospital during the last 8 years into four groups, viz., from 18 to 30, from 30 to 40, 40 to 50, and 50 to 57; we find the following to be the mean residence for each in the workshops, before contraction of the disease, 65, 60, 58, and 37; hence the number of days necessary to gain the disease, evidently diminishes with the age.

Authors are generally of opinion that the red lead is more injurious than the white, but there are few or none who support this assertion by a comparison of numbers; in the absence of other facts we must accept the testimony of the author, who found that eleven workmen at Clichy could work at red lead during a period of seventy three days before they fell ill, while the workmen on white lead at the same establishment fall ill before a lapse of sixty-five days.

As it is not our intention to follow the author through the whole of the laborious researches which he has made on all points of the disease, we shall merely give a *resumé* of the symptoms which constitute the disease, viz., intense pain in the abdomen, constantly affecting the patient when the disease was fully established; but, however, becoming exasperated at intervals, more or less approaching one another. The colicky pains irradiate towards the loins, the rachis, the parietes of the thorax, and even to the genital organs or thighs. Their essential character is in general to be calmed under pressure: they are sometimes accompanied with retraction of the abdominal muscles: symptoms of gastric derangement now soon come on, such as bitterness in the mouth, nausea, billious green vomiting: in the intestinal canal we have almost the appearance of strangulation: there is a stop to the passage of stercoral, and even of gaseous matter: the urine is secreted in less abundance; but in the midst of these sufferings, which are sometimes terrific, the pulse remains calm, and even frequently descends below the normal number. Finally, we sometimes observe, either during the disease, or as consecutive symptoms various accidents relative to the functions of the cerebrospinal axis, as convulsions, delirium, coma, general or partial paralysis affecting the limbs or organs of sense.

The *abdominal pains* are among the most constant symptoms of colica pictonum, and that by which the commencement of the disease is most clearly characterized. As to the circumstance so generally noticed by authors, of their being relieved by pressure, we find the following results from an analysis of the fifty-two cases which M. Grisolle has followed; viz., In forty cases the pains were relieved by pressure; in seven, pressure neither augmented nor relieved the pain; and, finally, in five cases the patient's sufferings were exasperated by pressure on the abdomen, whether moderate or powerful.

Retraction of the belly has also been described as a special symptom of the colica pictonum; however, it is not a constant one: thus, in forty-six cases in which the author sought this symptom with the utmost care, he found thirty-one in which the abdomen presented the ordinary volume and appearance; in fifteen only he found the abdomen retracted, and even in many of these cases the symptom was so little apparent, that it required a good deal of care to determine its existence.

Nausea and *vomiting* are also symptoms which frequently exist. The author has observed them thirty-two times in forty-six; the matters ejected were always greenish, and excessively bitter; they bore no relation to the intensity of the disease, and seemed to be idiopathic, as they were removed by means directly addressed to the stomach.

The *slowness of the pulse* is also a symptom frequently noticed by authors. In the cases reported by M. Grisolle, the pulse varied between forty-eight and eighty-four, the first few days of the disease; and in all cases where the pulse was as low as forty-eight, the malady prevailed with great intensity.

The *pains in the genital organs*, which are more commonly situated in the traject of the spermatic chord than in the testicles themselves, were noted in a little more than one-fourth of the patients. When pains existed in the extremities, it was the lower which were most frequently affected (three-fourths to one-half), while in one-third of the patients the loins were the seat of pains not unsimilar to rheumatic ones. The headache was always of short duration, and was noticed only nine times in thirty-seven cases. In the seventy-

eight cases of colica pictonum analyzed by M. Louis, the proportion is somewhat less, being about one-sixth. (?)

Epilepsy is one of the most grave accidents that can arrive during the course of colica pictonum, but it would not appear that it is a frequent one. The author observed only two cases in his fifty-eight. The disease appeared suddenly, and carried off both patients after thirty-six hours. Paralysis also appears to be a consequent of rare occurrence.

The march of colica pictonum is very irregular, but its termination is in general favourable. The want of accuracy prevents us from giving any faith to the results noted at *La Charité* by MM. Gardane, Merat, and Duchesne. In the fifty-six cases of the present thesis only two died, as we mentioned, from a sudden attack of epilepsy. The intestinal canal in these two was examined with the utmost care, but no trace was found of abnormal coloration, softening, or hypertrophy of the tissues. The cerebral convolutions were generally flattered, and the anfractuosities nearly effaced: the consistence of the brain was diminished throughout, but there was no trace of injection or of serous or sanguineous effusion in any part of the nervous centres.

The treatment of the colica pictonum has been various. That employed in the greater number of cases recorded by the author was the method so universally known as "the treatment of La Charité," and which consists in giving opium with purgatives, by the mouth or rectum. The purgatives, however, are what we in England would call laxatives; thus the lavement most commonly administered was—

R. *Decoction of Senna* ℥ ij; *Sulphate of Soda, Mercurial Honey,* aa. ℥ ij; *Water* q. s.

These lavements were administered alone, or combined with opium, to sixteen of the patients, of whom seven were affected with the disease in a very intense form. During the course of the disease, which on an average lasted five days and a quarter, they took six lavements, and five grains of opium. The other nine patients were affected less intensely; they were cured in four days and a quarter each, and took about four lavements and three grains of opium. This latter remedy was never administered until the constipation had been overcome, and the patient already more or less relieved. In six cases purgatives were given at the same time by the mouth and rectum; under the latter form they produced more abundant evacuations and most relief; these patients were cured in a period of seven days and a quarter. Three different kinds of purgatives were employed, viz. castor oil, mixed with one to three drops of croton oil, and the *huile d'epurge,* a lead remedy. *En resumé* the patients thus treated by the evacuant method were cured in a period varying from five days and a quarter to eight days, the maximum of treatment.

Within the last few years M. Gendrin has energetically insisted on the value of sulphuric acid, both as a prophylactic against the colica pictonum, and as a remedy for the disease when fully established. However, the researches of M. Grisolle seem to throw more than doubt on the first of these properties. Thus at the manufactory of Clichy, the mean duration of the workmen before catching the disease, is seventy six, when they have not drunk the sulphuric tisan; while those submitted to the prophylactic treatment of M. Gendrin, to not remain more than fifty days free. As to the comparative value of the treatment called that of "La Charité," and the acid treatment, it requires a more extensive comparison of facts than we as yet possess, to enable us to judge between them.—*Lancet,* 1835.

ON THE

PRODUCTION OF ALVINE FLATUS,

AND

ITS USES.

By F. Bush, *Esq., Surgeon, Frome.*

The process of digestion is a vital animal operation, and is not to be explained on chemical principles. In every species of animal the product of digestion is different from that of every other species; the flesh, the secretions, the excretions, differ. Digestion is *analogous* in the different orders, but is not similar, or the substances produced by it would also be similar.

In man, the functions of the stomach and alvine tube, constituting as these organs do the fountain of supply by which our growth is perfected, and our constitution sustained in health, and restored when impaired by disease, must be contemplated as deserving a considerable share of the attention of every person, and more especially that of the medical practitioner, whose duties place him in society as the guardian of health. Man soon becomes enervated, and incapable of useful exertion, and of social enjoyment, and even sinks to death, when these organs, the stomach and bowels, become the seat of lesion to any considerable extent. Disordered action will soon be followed by altered structure,—altered structure by morbid secretions and imperfect excretions; the system will not be supplied with healthy nutriment, neither will the excretory organs remove from it that which is necessary to be thrown off to constitute a state of health. Such consequences can only be averted by watchfulness to avoid their causes, one of the chief of which is want of attention to, or want of judgment in, the selection of food. In the present state of society we are so fettered by habit that every act of our lives is influenced by one of these causes; but in nothing is it more apparent than in our mode of living,—that is, in the use of the various articles of diet, or our selection of food, and in the means to which we have recourse for the purpose of counteracting the effects of the errors we commit. Errors of this description are most frequently met with in those walks of life, where the table is bountifully spread, and the necessity of labour,—active labour,

—is not imposed on those who indulge in the luxuries with which it is covered; such persons usually feel flatulency, constipation, headach. &c. &c., at a very early period of life, and more especially such among them as are, from disposition or occupation, of sedentary habits.

It may be proper, then, here to inquire whether gas or flatus in the stomach and bowels be a healthy or a morbid production, that is, whether it conduces to health or is productive or symptomatic of disease.

Examination of the bowels of animals in general, will show that flatus exists in them all, but that some have more of it than others. The herbivorous, such as sheep and oxen, when slaughtered in the most healthy state, present the bowels distended with flatus: so the horse is in good health when he crepitates loudly and frequently: carnivorous animals have the bowels also distended with gas, but not to the same extent as such as feed on vegetable matter. The bowels of man are also, when in a state of health, constantly distended with flatus.

Query, Does flatus in the bowls owe its origin wholly to digestion, or does it exist before birth? The bladder contains urine before birth: I have often seen a child micturate as soon as born; and the bowels contain fecal matter before food has been taken.

These facts would appear to furnish proof that flatus in the bowels is a healthy production, and as necessary to the well being of the animal, as the secretion of the bile or urine. If it were not, would it be constantly found to exist in the bowels of all animals in a state of health?

I shall now advert to the use of flatus in the animal economy. When the structure of the bowels is examined in man, we find it to be an irregular tube of various lengths, and of unequal caliber; this tube is composed of three coats or tissues, namely, the peitoneal is common to all the abdominal viscera, the muscular, peculiar to the bowels, consisting of fibres, some distributed longitudinally, others in irregular circles; and the villous tissue or coat is furnished with vessels to take up nutriment and admit mucus, and perhaps to yield gas. In whatever way gas is produced, it is evident that during the digestion of some ingesta, a much greater quantity of it is formed than during the digestion of other kinds of food. In what part of the primæ viæ gas is generated, may be a question not easily answered; but it is worthy of remark, that the jejunum, as the name implies, is found "empty;" it contains little or nothing more than flatus; whether this portion of the bowels be an organ secreting gas, or only the receptacle of it, I am not prepared to show; but the circumstance is well known.

From the facts which I have stated, I am induced to infer that flatus becomes a subject of inconvenience only, when, from some irregular action of the muscular fibres of the bowels, it finds more than ordinary resistance to its free passage through the tube. From the constraints of society, which render it impossible, in accordance with its usages, to pass off flatus at all times when our feelings urge us to do so, and from our temporary painful sensations from retention, which go off without the sensible escape of flatus by the anus or mouth, I am led to believe that it may be decomposed and taken up in some way with which we are not acquainted. It has been before observed that some substances are attended by more flatus while undergoing digestion than others; and such substances as yield most feculent matter are accompanied by the most flatus; this applies to the coarser vegetables used as food: on the contrary animal food, and the more nutritious vegetable food, such as wheaten bread, &c., are not attended during digestion with the same quantity of gas. Indeed it may be received as a truth, that the substances which give the least nourishment, and are required to be taken in large quantities to support life, afford most feculent matter and the largest portion of gas; this appears to be a provision to keep the caliber of the bowels free, and large enough for the dejections to pass easily. If this order had not been established, the frequent, if not constant action of the muscles by which the peristaltic motion is effected, would soon close the tube, from the want of some opposing power to those muscles. These muscles are furnished for the purpose of expulsion, and have no antagonists; there is no provision, but that afforded by the elasticity of the alvine gas, for keeping the caliber of the canal in a healthy state, or of restoring it to a proper size when contracted by disease. Some other examples in the animal economy besides the bowels may be adduced, where muscular fibres have no muscular antagonists; this is the case with the urinary bladder, gall-bladder, œsophagus; and it may be added, that some of the abdominal muscles, and some of the muscles of the thorax, are without antagonist muscles; but in each of these cases, there is some mechanical force applied as a substitute for the action of muscles. The œsophagus is distended in the act of swallowing food; the urinary bladder by the accumulation of water; the gall-bladder by bile; the muscles of the chest by the inhalation of air; and the abdominal muscles by flatus in the bowels, as well as from the pressure of the atmosphere acting on the lungs during inspiration, through those on the diaphragm, the contents of the bowels, and lastly on the abdominal muscles.

In intussusception I cannot conceive any power capable of affording relief but the elastic agency of alvine gas. Assuming then that alvine gas in the bowels is necessary to health, being the antagonist to the muscles of the bowels, and that it only becomes troublesome when it does not keep them sufficiently distended for the feces to pass off freely; if this view of the subject be correct, a question arises as to the best mode to be followed to obviate constipation and dyspepsia; that is, to enable the stomach to perform healthy digestion, and the bowels to throw off the feculent remainder of that which is taken as food, without the use of purgatives or injections. From the nature of this question, it is not to be inferred that a state of torpor, requiring even the most active purgatives, can for a moment be

supposed not to occur often; on the contrary, from the want of attention to diet, clothing, and exercise, purgative medicines will be required. In most constitutions there is a peculiar idiosyncracy or disposition to take on morbid action in some particular organ from taking cold, which would appear to be a deranged state, primarily, of that extensive, absorbing, and secreting surface, the skin. The bowels and liver often become secondarily affected, and a train of symptoms follows, not to be subdued but by active medical treatment: that is by depletion, by bleeding, and purgatives, as well as the use of antispasmodics, diaphoretics, &c. It is worthy of remark, that, in cases of obstruction of the bowels from spasm, inflammation, hernia, and costiveness, *belching* and *sickness* occur; but that no wind passes by the bowels; and that the escape of flatus freely by the rectum is a most favourable event, being commonly followed by discharges of stercoraceous matter, and complete relief; so that flatus may be considered as the *courier avant* of more solid matter. It has been stated that the persons most subject to dyspnœa and constipation, are those fed at tables spread with delicacies, and such as do not take freely of the coarser vegetable substances. This opinion is strengthened by the fact, that the rustic labourer whose food is chiefly of the coarsest kind, is rarely the subject of dyspepsia and constipation, and the various ills that attend them.

From what has been said, it may be of some interest to persons subject to costiveness and dyspepsia to direct the attention to ascertain whether the best method to bring the stomach and bowels into a healthy state, is to live chiefly on animal food, wheaten bread, and such matter as is considered not to yield much flatus; or to indulge freely in eating the less nutritious vegetable substances, such as cabbage, spinach, turnips, peas, beans, onions apples, salads, and such other of the esculent vegetables as are known from experience to be attended, while passing through the process of digestion and expulsion, with much flatus.

The dyspeptic who has avoided vegetables from an impression that they are hard of digestion, and liable to increase his unpleasant feeling, would do well not to be discouraged from their use; if, on resuming them, he finds himself a little uneasy, such a feeling must necessarily arise, if a morbid contracted state of the tissues of the bowels is to be overcome by the mechanical elastic force of alvine gas; and if such a state does exist, I can conceive no other means by which such a morbid state can be removed, and a sound one established.

From, Aug. 10, 1835.—*Lancet*, 1835.

THE

RESPIRATORY APPARATUS IN OLD PERSONS.

The *Archives Generales* for August contains an article entitled "Clinical Researches into the Diseases of Old People, conducted at the Hospital of Salpetriere, Paris; by M. M. Howmann and M. Decamber, internes."

The diseases peculiar to persons advanced in life have hitherto been sketched in a very slight manner by a few authors, rather than examined with that degree of care which they really demand. It would seem as if physicians thought the lamp of life at this period was too feeble to require any fostering attention, and that all that was necessary to be done was to allow it to burn out quietly without any attempt being made to prolong an existence, which, in the order of things must very soon arrive at its termination. We do not want for treatises on the diseases of the infant state, or childhood: the maladies of adults have given rise to works without number, but we possess little clear knowledge, either on the modifications impressed by as on the texture of our organs, or on the functions connected with them.

The object of the authors of the memoir now before us is to supply this deficiency, and they commence with diseases of the respiratory organs, which, though frequently existing in old persons, assume certain forms that in many cases deceive even the most rigorous examinations. The observations upon which their remarks are founded were made on the females of the Hospital Saltpetriere, whose ages vary from 60 up to 90, or beyond 90 years.

Let us first notice a few anatomical circumstances peculiar to the respiratory apparatus of old women.

Thorax.—The thorax in aged females presents two states, very different from one another, which deserve to be examined.

The first is a case of exception, and found in aged females who conserve a considerable share of the freshness of youth; the mammæ are voluminous and still consistent; the whole thorax is covered with a layer of fat; the muscles are well-coloured and the costal cartilages retain their suppleness. However, the ensemble of the thorax has undergone a peculiar change belonging to old age; the superior part is flattened laterally in such a way that the antero-posterior diameter is considerably increased at the expense of the transverse one. This change is commonly accompanied by a gradual enlargement of the thorax towards the inferior part, which then represents a pyramid with a large base, whose apex has been somewhat shortened.

The second type is much more frequent. Here the cavity of the thorax is remarkably modified, and the lateral flattening above noticed may be carried to an extreme degree; in some cases it produces an angular from of the thorax, exactly like that seen in rachitic persons. This disposition of the chest is important to study, for it brings with it several changes in the relation and conformation of the subjacent viscera, which have not as yet been noticed by writers. Thus the liver is considerable pushed down from its natural position, and frequently bear the marks of pressure exercised on it by a narrowing of the inferior portion of the thorax, in females who have worn stays. In these cases also, the right lung is elongated, and follows the displace-

ment of the liver into the abdominal cavity. The sternum is, as we mentioned, always carried forwards, but the xyphoid cartilage is pushed backwards, and even sometimes completely concealed behind the cartilages of the last true ribs. The longitudinal diameter of the thorax also undergoes a remarkable change in old persons. This circumstance has been noticed by all writers. Sometimes the intervertebral cartilages disappear completely. Fischer* relates one case of a man aged 100, in whom nine vertebræ were reduced to one solid piece, and Boerhaave† met a similar alteration affecting the whole spine.

The vertebral column however is not only shortened, but becomes flexed forwards, and that often in a permanent manner. In consequence of the weakness of the dorsal muscles, the pressure is most felt anteriorly, and here the bodies of the vertebræ are most intimately united. This inflexion usually occupies the last cervical and first dorsal vertebræ, and is often carried to an extreme degree ; in some of the old women at Salpetriere it is so marked, that the posterior surface of the scapula becomes superior, and the cervical region makes nearly a right angle with the dorsal. The changes just pointed out in the external from of the thorax, must necessarily occasion corresponding alterations in the viscera contained within its cavity, or connected with it. The diaphragm is thrown into folds, which in some cases leave their mark on the liver, and this viscus is pushed down into the cavity of the abdomen several inches below its natural level ; the tissue of the ribs themselves is much rarefied, but (contrary to the assertion of authors) in a very few cases only do we find an osseous incrustation of the cartilage of the ribs. The costo-vertebral cartilages generally conserve their mobility to the most advanced period of life.

Lungs.—Before we pass to the pathological examination of an organ, we should possess correct notions of its structure at the period to which our examination is limited, for the former cannot fail to receive special characters from the latter. Hence it is of great importance to study the structure and peculiarities of the pulmonary tissue in old persons. With respect to their external configuration and appearance, the lungs of old persons may be ranged under three classes.

In the first, the lungs preserve nearly their normal aspect, and differ very little from those of the adult; however, in all cases where the chest presented a lateral flattening to any considerable degree, the authors found a peculiar disposition of the interlobular fissure. This becomes vertical, in such a way that the two lobes of the left lung are opposed to each other, one directly forwards, the other backwards ; while in the right lung, the middle lobe, directed downwards, is surmounted by the inferior lobe, which in some cases even constitutes the posterior quarter, or those of the summit of the organ. Hence a pneumony of the summit may occupy the inferior lobe, as we shall presently have occasion to see.

In the second class, the peculiarity consists in the smallness of the lungs. The organ is light, and little susceptible of being inflated by the greatest force. They are constantly bathed in the cavity of the chest by a limpid serosity ; when compressed, their crepitation is more diffuse than in the lung of the adult.

In the third class the lungs present a mass unequally thrown up into eminences, and are bathed in a much greater quantity of fluid ; they are flaccid, livid, and have altogether lost their conical form. The division of the lobes is not less remarkable ; the latter are merely united by a flat, thin pedicle, which leaves them as it were floating in the thorax ; they are extremely light, and give a most peculiar sensation to the touch ; the heart is smaller, and often in a state of complete anemia ; the thorax is excessively emaciated.

Intimate Structure.—M. Magendie, who has made some interesting researches on the structure of the lungs in old people, lays it down as a fundamental rule, that the air-cells are increased in magnitude, giving rise to a considerable diminution of their specific gravity. However, the exaggeration of the cellular structure is only perfectly seen in those persons who present the traces of old age in a very high degree. The lungs of aged persons were examined by our authors nearly in the same manner as by M. Magendie, but they had not recourse to insufflation. They arrange the lungs, considered as to structure, under the three classes above enumerated, viz.

1st. Case. " Lungs voluminous, filling a thorax well developed, and whose soft parts are still free from emaciation, or even fat." A thin cut of this lung dried gives a number of holes perfectly round, crowded together like the meshes of lace, and presenting a diameter of about a quarter of a line. (Fig. 3.) The cells are here perfectly regular, and everywhere independant.

2nd Class. " Lungs of regular form, but small, bathed in serosity ; thorax contracted ; soft parts emaciated." A thin cut of this lung dried, shows a texture somewhat similar, but differing in many respects. The cells are no longer round but *elliptical*, and the vascular apparatus is less numerous ; the cells, however, are still limited by a regular circumference, and are independent. (Fig. 4.)

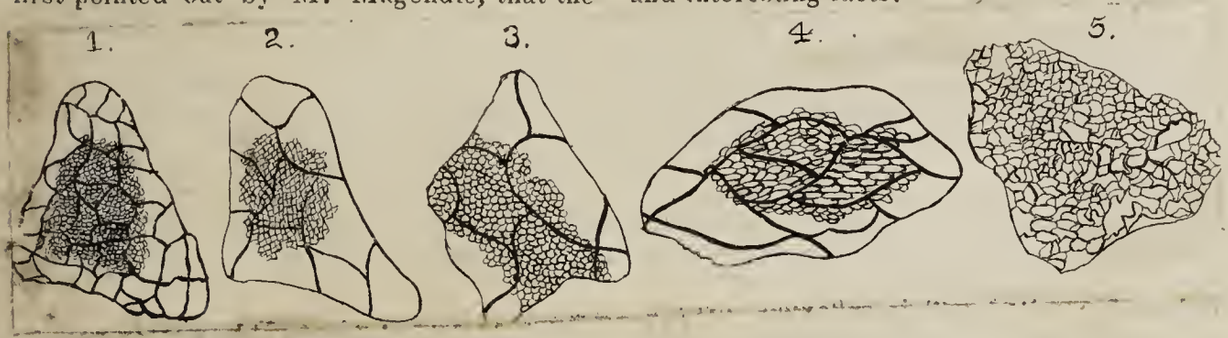
3rd Class. " Irregular form of lung, which is withered-looking, and applied to the vertebral column ; the thorax is contracted, and reduced to an extreme degree of emaciation." Here the pulmonary vesicles do not present any distinct form ; the parenchyma is converted into a sort of spongy mass; the microscope distinguishes a few vascular branches, and there is no trace of the lobular subdivision. This latter condition of the lung, which is always found in persons presenting the characters of old age in a well-marked form, is a species of natural emphysema which is well worthy of attention, but it is necessary not to confound it with morbid lesions, properly so called.

If we compare the relative sizes of the pulmonary cellules in the infant, the adult, and

* Tractatus de Senioejusque Gradibus et Morbis.
† Prælect. tom. iii p. 725.

the aged person, we shall find a remarkable progression as we approach senility. This has been proved by the author, in frequent experiments. Thus the dried cells of the infant lung are only a twelfth of a line in diameter (fig. I) ; those of the adult about one-eighth or one-sixth (fig. 2) ; finally, the diameter of the air-cell in the aged (fig. 3), presents a diameter of one-fourth of a line. Hence the law first pointed out by M. Magendie, that the pulmonary tissue becomes rarefied directly in proportion to age.

Such is a brief anatomical history of the structure of the thorax and lungs in aged persons ; in a second memoir the authors propose to take up the physiological part, and treat " on respiration in old patients." We shall not fail to follow their observations, which promise to bring to light several new and interesting facts.



EXPLANATION OF THE ENGRAVINGS.—The air-cells may be supposed to occupy the entire surface of each layer.

No. 1. Layer of the lung of a child four years of age.

No. 2. Layer of the lung of an adult female.

No. 3. Layer of the lung of an old female (first type). Commencement of rarefaction in the lungs ; cells round, but quite independent.

No. 4. Layer of the lung of an old female (second type). Second degree of rarefaction ; cells elliptical, but still independant.

No 5. Layer of the lung (third type). Extreme degree of rarefaction. Irregularity and confusion of the cells.—*Lancet*, 1835.

MEDICAL TOPOGRAPHY OF INDIA.

COMPILED FROM VARIOUS WORKS AND MANUSCRIPTS

BY

THE EDITOR OF THE INDIA JOURNAL OF MEDICAL AND PHYSICAL SCIENCE.

THE TOPOGRAPHY OF ARRACAN

We now resume our Extracts from Portuguese authors, on the History of this rich and interesting Country.

ARRACAN.

(*Continued from page* 219.)

Although there are a variety of tame as well as wild beasts in *Arracan*, yet horses are so scarce, that *Schouten* saw but one all the while he was in the country : instead of them they make use of buffalos for ploughing, and other services. These animals are very large and strong, with desperate horns, wherewith they presently gore to death those whom they attack: as they do strangers, who pass along the roads, near which they commonly feed ; especially if they wear any thing which is red, a colour that enrages them. They are so subtile as to let a man pass them quietly, and then, running at him full-drive, toss him with their horns. For all this, they are tamely obedient to the blacks who keep them ; and, at the sound of a horn, assemble about them ; let them get on their backs ; and, at their command, will carry them safely over the most rapid river, or rugged ways ; the rest following one the other. Among other animals there are infinite numbers of goats, and a great quantity of game. There is likewise plenty of geese, ducks, and fowl, together with excellent fish.*

The kingdom of *Arrakan* or empire of *Mogo*, is said to comprise twelve lesser kingdoms, which are always governed by crowned heads (or those who have the title of kings), and twenty-four provinces (E) : but of these we find not the names in authors†. This too must be understood of *Arrakan*, when in its most powerful state, under its conquering sovereigns. The cities, towns, and villages, of this country are very numerous and populous. But scarce any of them are known to *Europeans*, excepting such as lie near the coasts.

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* Ibid. p. 240, and seqq.

† Oving. voy. Surat, p. 560, 568.

(E) *Edoardo Barbosa*, who had twelve palaces, one in each wrote about 1515, says the king province.

The capital of *Arrakan* gives name to the kingdom. It is nearly of the same bigness with *Amsterdam:* but much more populous. It is surrounded with suburbs, which extend some leagues in length*. This is *Schouten's* account, who was there in 1661. By others we are farther informed, that it stands in a valley, and contains no less than fifteen miles in compass; being quite environed with a rigde of steep and craggy hills, which serve it instead of walls: and appear as such to one who is in the city, being artificially cut to resemble a strong fortification. The outlets, which serve for gates, are hewn through the rocks, and, being defended by bulwarks, render the place impregnable. Besides these outworks, it is defended by a castle of such incredible strength, that the king of *Brama*, with an army of three hundred thousand men and forty thousand elephants, was forced to raise the siege with disgrace.

Through the valley runs a large river (F), which, dividing into several rivulets or streams, conveys merchandize and provisions to all the streets of *Arrakan*. Having past through the city, which is forty-five or fifty miles distant from the sea, they unite again, above half-way down, in two channels; one of which falls northward into the gulf of *Bengal* at *Orietan*, the other southward, at *Dobazi*, or *Duabakam:* both which places are much frequented by merchants; only the ebbings and flowings of the sea are so violent, especially about the time of the full moon, that ships can hardly ride safe in the ports†. This is a noble spacious river, its mouth both wide and deep, having no less than six fathoms water at the entrance, and above twenty in some places farther in; where it makes an harbour large enough to hold all the ships in *Europe* ‡.

This we take to be the river, which in the Jesuit's map of *Tibet*, is named the *Great Tsanpu*. It rises in the west parts of that vast country, near the springs of the *Ganges*, and runs quite through it eastward, passing near *Lássa*, the residence of the *Great Lâma:* till drawing near the frontiers of *China*, it takes a vast sweep to the southward, and turns south-west, along the borders of *Assam* and *Tipra*, into *Arrakan;* which it passes through on the eastern side of it, from north to south, and at length falls into the gulf of *Bengal*, as before set forth. As travellers have not communicated the name given to this river in the country, it is called by our geographers the river of *Arrakan*.

Schouten never saw a city where the buildings were so thick, or the streets so crowded with people (G): but most of the houses are so low that they look more like huts, and do not answer to the vanity of the nation; for the same author never observed them higher than four, five, or fix feet at most. They stand at a distance from the ground on pillars; because, almost every night, there rises a fog which covers the surface of the earth, and continues till dissipated by the morning sun. The houses are built with the branches of palm-trees, bambû canes, and Cocoa-leaves; they have many little windows, and are very airy. Those of the better and middling sort have handsome apartments, which communicate one with another, and are very well contrived. They have neither garrets, cellars, nor fire-places; and the kitchens are without-doors, commonly under little penthouses near the entrance, where the women dress their meat in earthen pots. They sleep on carpets and mats, covering themselves with pieces of linen or cotton to keep them warm*. But although the buildings are for the general mean, yet one meets with several spacious piazzas, where trade is carried on. The princes and nobility employ a different kind of timber in their houses, and are profuse in adorning their apartments with exquisite carving and gildings; nor are the inferior sort destitute of embellishments. They reckon no fewer than six hundred pagodas in this metropolis.

The king's palace is vastly large; but not so beautiful for its structure: it is supported by large and tall pillars, made of whole trees, and covered over with gold. The apartments above are built with red and white *sandal*, a sort of eagle-wood, and other odoriferous timber. In the middle of the palace is a great hall, called the *golden house*, because the inside in entirely overlaid with gold; and over a raised place is fixed a canopy, hung round with above a hundred *kombalenghe*, or large wedges of the same metal, in the shape of sugar-loaves, each weighing above forty pounds. Here likewise are to be seen seven idols, each the height of a man, cast in gold two inches thick; and adorned with rubies, emeralds, saphires, and diamonds of an extraordinary size, on their foreheads, breasts, arms, and about their middles. In the centre of this hall stands a square stool, of three hands-breadth, supporting a cabinet, both of pure gold, and studded with precious stones; wherein are kept the two *kanekas*, or famous pendents, made in the form of pyramids, of two rubies, each of the length of a man's little finger, and broad at the base as an hen's egg. These jewels have been the source of most bloody wars among the neighbouring potentates; not so much on account of their value, as that the prince who possesses them is supposed to have a right of dominion over the rest. This king, however, never wears them but on the day of his coronation†.

In another apartment of the palace stands the statue of the king of *Barma* (commonly called *Brama*), murdered by his subjects; which is made with so great skill as to raise admiration in the beholders, who are very numerous; because that prince was reckoned

* Schout. ubi supra, p. 229, and seqq.
† Ovingt. ubi supra, p. 554, and seqq.
‡ Hamilt. ubi supra, p. 28, and seq. See also *D'anville's* map of *India*, for the company, 1752.

(F) Called *Khaboris*, by *Maginus*.

(G) Yet the inhabitants were computed at but one hundred and sixty thousand, excepting the merchants, and (other) strangers. *Ovington*, P. 559.

* Schout. ubi supra, p. 229, & seq.
† Ovingt. ubi supra, p. 556, & seqq.

a great saint (H), and famed for curing diseases, especially the bloody-flux; on which account they resort to his statue.

Not far from the place is a great lake, full of little isles, inhabited by their priests, with boats plying on it. But it has no communication with the city, being hindered by a bank; so contrived, that, in case the place was forced by an enemy, they might be all drowned, by cutting a passage for the water through the bank.

The most northern maritime city (I) is *Orietan*, to which, from the capital, there is a delightful passage by water: the banks of the river being set with tall trees, whose inclining heads make a continued shade to defend the traveller from the sun; who is diverted with the apes and peacocks which frequent them. The city is much resorted by merchants from all parts of *India*, and even *China* and *Japan*. It is the capital of one of the twelve provinces, whose governor receives a crown from the king at his coronation, and always enjoys the same title. Not far from the city stands the mountain *Mawm*, with a lake of the same name at the foot of it. Hither are banished state offenders: and although the mountain is so craggy, and infested with wild beasts, that it is almost impassable; yet the king not only causes those exiles to be strictly guarded, but farther, to prevent their flight, cuts off their heels*.

From the mountain *Mawm*, you cross the gulf to *Peroem*, another city; which, being near the sea, with a good harbour, is a place of great trade. The governor exercises absolute authority within his jurisdiction, and keeps a court answerable to the majesty of a king.

Some days journey distant is *Ramu* a considerable city like the preceding: but the way between them is very dangerous, whether you go by land or water, the sea being subject to sudden storms; and the road by land, lying across the mountains of *Pre*, which separate *Arrakan* from *Pegu*, is infested with wild beasts. There is in this part of the country a mountain called *pora*, that is, God; from an idol on the top of it sitting cross-legged, and much resorted to by the devout *Indians*. By this place (K) runs a large river, from which some engineers would have persuaded the king to cut a canal as far as *Arrakan*: but he rejected that project, for fear of exposing his capital to the incursion of the *Mogols*, who might easily convey their forces down such a passage.

The next place of note on this tempestuous coast is *Dianga*, or *Diango*, which some assign to *Bengâl*; but in *Schouten's* time it was a frontier city of *Arrakan*. Indeed this city, as well as *Chatigan* (which was undoubtedly once an empory of this kingdom, and commonly governed by the king's second son), has frequently shared the fate of frontier towns, in changing its masters. The greater part of its inhabitants are *Portuguese* fugitives (or the descendants of them); who enjoy great privileges by grant of the king (L), and have a church here belonging to the *Augustin* friars.

There are other places along this coast subject to the king of *Arrakan*, as *Koromoria*, *Sedoa*, *Zara*, and port of *Magaeni*: to which may be added the island of *Sundiva*, already mentioned, abounding with salt; about 100 miles in compass, and 20 from the coast of *Bengal*, to which it properly belongs. The *Portuguese*, looking on it as a fit place for a retreat, being naturally well fortified, in 1602 took it from the *Mogols*, who sometime before had forced it out of the hands of its own prince: this latter gave up to them likewise all his right and title thereto. But the king of *Arrakan*, fearing the growth of their power, compelled them (M) the next year to retire from thence to *Bakala*, and other places of *Bengal**,

Descending the southern stream of the river from the city of *Arrakan*, you come to *Dobazi* (or *Duabakem*), a city and port of great traffic. From thence, following the coast, you arrive at *Chudabe*, which, having a commodious port, is likewise much frequented by foreign merchants. Not far hence lies cape *Negrais*; and near it, according to *Toffi*, the island *Munay* (N), famous for its many temples, and being the residence of the chief *Raulîn*, or hope of *Arrakan*†. At this cape *Arrakan* ends, although *Toffi* extends it along the south coast as far as *Sirian*, which properly belongs to *Pegu*; and others make cape *Negrais*, with all the coast north-wards to beyond 18 degrees of latitude, to belong to *Ava*.

The people of *Arrakan* esteem a broad flat forehead; which they give their childern, by binding hard on that part a plate of lead as soon as they are born, letting it lie on till the effect be produced. Their nostrils are large and open; their eyes small but quick; their ears reach down to their shoulders, like those of the *Malabârs*; and they are very found of dark purple colour‡.

The *Shikkes* (O), counsellors of state, nobility, and all people of condition, wear a vest,

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* Ibid. p. 588,

(H) What king this was is hard to say; there were but three *Barma* kings of *Pegu*: the first and last were butchered; but far from being saints, unless their being cruel and tyrannical made them so.

(I) In the time of *Edoardo Barbosa*, about 1515. *Arrakan* had no sea ports.

(K) It is not said whether the mountain *Pora*, or city *Ramu*.

* Ovingt. p. 561, & seqq.

† Ovingt. p. 565, & seqq.

‡ Ibid. p. 569.

(L) There was a massacre of them here about the year 1607. See the following history.

(M) See the subsequent history.

(N) But *Mendez Pinto*, p. 252, places the island *Mounay*, where the chief *Raulin* resides, one league and a half from the city of *Martavan*: there is a cape of the same name, turning into the river, or port, of *Martavan*, on the south side thereof.

(O) The *Sikkes* are the prime men of the kingdom, or chief ministers, who compose the king's council, according to *Schouten*, p. 156.

or shirt, of fine white calico, which sits close to the body and arms. Over it they have a long gown of the same kind, which buttons round the arms, and tied close upon the breast with ribbands. Besides this they have an apron, which covers the belly and thighs before, with another piece of white calico like a bag, which, gathered in many folds, covers the parts behind, and is tied round the waist, from whence it hangs; so that they look as if they carried a large bundle of cloth about them. They let their hair grow long, tying it in tresses behind the head; like the women in *Holland*, and adorn it with fine cloth, made up in knots; the women are tolerably fair.

The women wear a kind of flowered gause, which is transparent, and, covering the bosom, passes over the shoulders. They likewise fasten about their waist an apron of fine calico, which goes three or four times round them, and reaches to their feet. They who are rich wear a silk scarf over one of their arms. Their hair is not tied, but done into buckles, in an agreeable manner. They stretch their ears by boring them when very young, and putting in the holes rolls of parchment, or the like, which they enlarge from time to time: they wear in them rings of glass, silver, or other materials, which make a jingling against the neck as they go along. Sometimes they have bracelets all the way up their arms to the elbows, and from the ancles to the calves of their legs. But the genteeler sort content themselves with a few japanned ones.

The people, in general, are very ostentatious, and usually make an appearance beyond their ability; it being common for a person to be attended by several servants, who is not able to maintain above one or two*.

MEDICAL AND PHYSICAL SOCIETY'S MEETING.

Saturday Evening, 7th May, 1836.

J. Langstaff, 1st Member Medical Board, in the chair.

Present at the meeting, Dr. Ranken, Dr. Goodeve, Dr. O'Shaughnessy, Mr. Egerton, Dr. Dempster, Mr. Porteous, Mr. O'Shaughnessy, Dr. Baen, Mr. Ledle, and Mr. Corbyn.

W. Mackenzie, Esq., Assistant-Surgeon of the Madras Presidency, was proposed as a Member of the Society by Mr. Hewitt, seconded by Dr. O'Shaughnessy.

Letters from the following gentlemen were then read:—

From R. Phillipson, Esq. Assistant-Surgeon, 19th Regiment N. I., requesting that his name might be withdrawn from the Society.

From J. Mouat, Esq., Surgeon H. M. 13th Dragoons, stating that several more cases of purulent deposit had occurred in his practice, the particulars of which he should have much pleasure in forwarding to the Society.

From C. Morehead, Esq, Secretary of the Medical and Physical Society of Bombay, forwarding a copy of the rules of that Society.

From Dr. Falconer of Saharunpore, stating, that the Botanical Garden under his superintendance, at that station, presented many advantages for the cultivation of the plants brought out from Europe by the Right Honorable the Governor-General, and that he should be very happy to take charge of any of them, which might be spared from other stations.

Dr. O'Shaughnessy solicited some information from the members of the Society as to the present state of the Saharunpore Garden.

Mr. Langstaff spoke in great praise of the Garden at Saharunpore, commenting upon the congeniality of the soil and climate for the plants which had been solicited by Dr. Falconer, and eulogized Dr. F. for his well known zeal and talents in Botanical science. Dr. O'Shaughnessy did not intend to detract from Dr. Falconer's merits which were universally acknowledged; he had alluded to the dimensions of, and establishment attached to, the garden. Mr. Langstaff said that the garden occupied about 10 acres and was well stored with several thousand plants which were in a state of high preservation Dr. Goodeve was of opinion, that as the subcommittee had already transferred the plants to the care of Dr. Wallich that the Society could no longer interfere by complying with Dr. Falconer's request. The meeting then directed Dr. Goodeve to thank Dr. Falconer in the name of the Society for his offer.

The following communications were then presented:—

1. A case of protracted ulcer by two applications of galvanism, by Rt. Tytler, Esq. presented by the Medical Board.

The patient was a sepoy who had suffered during several years from a scrophulus sinus in front of the trachea, which had defied every attempt at relief. Dr. Tytler twice applied the wire from the zinc extremity of a galvanic trough to the surface of the sore, and in seventeen days the man was discharged cured.

2. A case of enormous liver abscess in a European, successfully treated by J. Colquhoun, Esq., Assistant Surgeon 12th Regiment N. I., presented by Dr. Dempster, H. M. 49th Regiment.

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* Schouten, ubi supr. p. 233.

3. A letter from Doctor Wallich, forwarding some specimens of the poisonous root, which he had obtained in his late journey in Upper Assam.

Dr. W. states that this root is called bish or beesh by the Mishmees in Upper Assam. It is used by these people for poisoning arrows and spears. They employ the leaf in its fresh and dried state, simply beaten into a pulp with the acid juice of the athenga; (dellenia speciosa,) of the dried root they select such as retain some degree of flexibility, looking upon the others which are hard as less efficacious.

Dr. W. says that it resembles the poisonous root of the aconitum ferox of Nepal, and he concludes that the Mishmee root is produced by the same specie of plants, that it is indeed perhaps the same plant. It is brought down into Assam in baskets of various sizes, the larger of which contains 52 roots each, and it is sold at eight annas the basket. The Mishmees employ it indiscriminately for destroying both man and beast. Dr. Wallich states that he is not aware that this poison is mentioned by any other writer than Major Wilcox, who apparently alludes to it in his memoir in the 17th vol. of Asiatic Researches, p. 337, in speaking of the extract of some root with which the Mishmees poison their arrows.

Dr. W. then refers the Society to his work upon the Plantæ, Asiaticæ, Rariores, vol. 1st, p. 35, for some account of the Himalaya poison (the aconitum ferox.)

The letter concludes by recommending an investigation of the chemical properties and physiological operations of the root which the writer presented.

Dr. Stewart alluded to Mr. Pereira's experiments on the aconitum ferox. Dr. O'Shaughnessy said that the poison was well known in India, and was procurable in every bazar in Bengal. He had already tried several experiments with it, the fourth of a grain was sufficient to kill a large dog in a few moments. Dr. O'Shaughnessy was happy to tender his services to be added to those of other gentlemen of the Society to analyze the poison; he was ready to undertake the chemical part, which was his vocation; he should look to his colleagues to afford the Botanical and Physiological description.

Dr. Goodeve alluded to Dr. Cassanova having made some experiments with the poison; a very minute quantity killed an adjutant when a large quantity of arsenic failed to have any effect.

It was resolved that a committee be appointed to carry Dr. W.'s proposition into effect. The members to be Drs. Wallich, O'Shaughnessy, Goodeve and Cantor.

Dr. Mouat's paper on purulent discharges from the bladder and rectum in hepatic diseases, was then read and discussed.

The author commenced by remarking that purulent deposits have been known from very remote antiquity, instances having been mentioned by Galen, Sculletus, Pare and others, where the sudden disappearance of abscesses have been followed by evacuations of pus from the bladder and rectum. Purulent depositions from these organs have always been attributed to the direct opening of the abscess either into the intestines, gall bladder, ureters, &c. but Dr. M.'s observations have induced him to believe that in many cases no such communication has occurred; these discharges being depositions or excretions in the fœcal or urinary passage. He proposed to illustrate this by cases bearing upon the point in question. That this occurrence in hepatic abscess should not have been recorded is no reason why it should not exist; indeed in the present cases the observation was made accidentally. The author quotes the abscesses which form after fractures, amputations, wounds of the head, &c. as somewhat analogous, for he considers these to act as derivatives from the original seat of the disease, and he asks, why a similar event should not take place in hepatic abscess. He then adduces the known effects of the system in relieving itself when any of its principal functions are impeded in their natural action as evidenced in the metastisis which take place in various diseases, and which however explained must be allowed to exist. The author mentions also the existence of this in the veins of several people who have died of extensive abscesses as mentioned by Andral and Alison and the case of hepatic abscess related by Mr. Twining, where pus was found in the right ventricle of the heart. We may look therefore, he observes, to the vascular system as the probable cause of the removal, and subsequent secretion of the matter in the cases which form the subject of his paper. The Doctor then gives thirteen cases of Europeans affected with liver abscesses in which pus was passed, by stool in 10, by urine in 11; by vomiting in one, by expectoration in 4; of these 7 died and the rest recovered; on dissection of those who died no trace of communication was discovered between the abscess and any of the outlets through which the matter had made its way; by analogy the author concludes that those who recovered were similar cases. In two instances the disease was complicated with diseased veins having the pathognomic symptoms of beri beri. In almost all the above mentioned cases the discharge of pus afforded great relief to the hepatic disease, the swelling of the side diminished—and the patient was easier. In those which were cured, the improvement produced by

the discharges was permanent. It appeared almost critical. The discharges in several instances were simultaneous with the action of mercury on the system. Dr. M. remarks that although in many instances of dysentery and hepatitis there is found extensive disorganization, notwithstanding the most free action of mercury, nevertheless he has observed the remission of acute disease is generally synchronous with Ptyalism and the appearance of pus always tends to quiet the constitutional disturbance and alleviate urgent symptoms.

In an appendix the author remarks upon the distinction usually drawn between Phlegmasia Dolens and Phlebitis—and observes that in the cases brought to his notice, the symptoms of both have been conjoined, whence he is led to believe them only varieties of the same affection both as to violence and the order of vessels and tissues implicated, as well as some peculiarity of action in the vessels themselves as seen in the application of blisters where the discharge is generally watery and limpid, yet in some cases it becomes a gelatinous mass. Dr. Mouat in this part of his communication details the experiments made by Mr. Macgregor, of H. M. 39th Regt. upon the matter discharged in one of the cases related in the paper. These consisted of the usual processes with sulphuric nitric and muriatic acids. That gentleman admits the well known uncertainty of the results which attended experiments of this nature, and the impossibility of ascertaining exactly the distinction between pus and mucus, but that as far as he could judge the deposits submitted to his experiments undoubtedly were pus.

Dr. Macdonald observes, that in the course of the experiments which he made upon these reports he observed, that the pus taken from the breast of a native woman six months pregnant, when dropped into several boiling solutions coagulated in a solution, carbonate of potash and ammonia, and perfect coagulum was obtained, and in muriate of ammonia, a very consistent coagulum took place from very watery pus.

Some blood taken from the woman above mentioned presented upon the under side of the coagulum some discolored spots. These spots ran towards the centre of the clot. In the clot last obtained some of these spots became converted into an excavated scab, having the appearance of lymph or pus dried. The rounded part in both cases looked like tubercle or the masses described by Carswell as appearing in the blood in the spleen of tubercular subjects.

Mr. Egerton alluded to the common practice of gentlemen when they wanted to establish doubtful practice as perfect, drawing their inferences by quoting the opinions of other authors, such was the case with Dr. Mouat. We have no opportunity, added Mr. Egerton, of seeing pus absorbed but by the eye; and he could scarcely conceive that pus was absorbed and discharged in the way mentioned by Dr. Mouat. Dr. Goodeve did not see why the pus should not be conducted by the veins. Dr. Ranken believed it ascertained that pus might be absorbed by the veins, but he doubted whether it was ever taken up as Dr. Mouat supposed from the liver, carried through the circulation, and discharged by the kidnies or bowels. Diseased action forming purulent matter, he thought, was often transferred from one organ and one tissue to another, but he knew of no evidence to prove that pus itself could pass through the lungs unaltered, Dr. Goodeve could not conceive how pus could be deposited any other way than by being taken up by the veins. Dr. O'Shaughnessy was not satisfied with Dr. Mouat's exposition to prove that the matter was pus that had been discharged. It was difficult to distinguish pus at any time; and Dr. O'Shaughnessy was of opinion that Dr. Mouat's experiment had not established the fact. Mr. Corbyn, during the course of his practice had paid some attention to the nature of urine in hepatic affections, and had often been struck at the large discharges of mucus. He could not account for it, but such discharges often did occur. As to the matter being pus he concurred with Dr. O'Shaughnessy in differing from the author of the paper, and it would be difficult to prove by the most able chemical analysis that it really was pus. There were other points on which he differred from the author; he alluded to the matter discharged being the contents of the abscess in the liver when there was no channel between the intestines, on the bladder indeed Dr. Mouat asserted another extraordinary circumstance that the kidneys and bladder were free from disease during this excessive discharge of purulent matter by the urine. Mr. Corbyn did not pretend to deny the agency of absorbents in taking up matter, and that it might be discharged by the bowels and urine: but he could not see how the contents of an hepatic abscess could be so discharged.

A desultory conversation followed on the subject of sympathetic irritation, such as abscess in the liver consequent on gun-shot wounds and amputations, and abscess occurring without previous symptoms of pain or any indisposition to indicate such a serious effect. Dr. Dempster stated a case of that kind which had occurred recently in H. M. 44th. A man was found to have a large abscess in the liver who had never previously complained of pain in the side.

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LECTURES
ON
THE PRACTICE OF PHYSIC.

Delivered at the Medical College, Calcutta.

By H. H. Goodeve, Esq. M. D.

INTRODUCTORY LECTURE.

We are now about to commence upon another and a very different branch of study from that to which you have hitherto devoted your attention.

A large portion of the foundation of your future medical knowledge has I trust been securely laid by the attention you have paid to the science of anatomy and her twin sister Physiology. You are now ready to apply with advantage the information you have already acquired and to prosecute with profit the more practical part of your profession. Without that previous knowledge you would have labored in vain as you have already been frequently told, you can know nothing of the nature of disease until you have made yourselves masters of the structure and use of the parts which are the subject of that disease. I need not on this occasion therefore enlarge upon the important character of the studies in which you have heretofore been engaged and their intimate connexion with those to which you are about to devote your attention. Their value must be self evident to the merest tyro, how much more so then to you who have already made so much progress in your studies. A progress, I may add without flattery, which has been made within so short a period of time, that it is equally creditable to yourselves and gratifying to your instructors. Strict, however as the connection between healthy and morbid anatomy may be, and much as the progress you may hope to make in the latter will depend upon your knowledge of the former. You will find that the subject of your present studies differs materially in its nature from that in which you have been hitherto engaged. In the study of anatomy you have, for the most part, required the exercise of memory only, now still retaining in your minds the knowledge you have already obtained, you must call reflection and judgment to your aid, and be assured Gentlemen, these qualities must be of no inferior character, or you will never become skilful physicians nor accomplished surgeons.

In place of acquiring a long list of hard names with an account of the relative position of arteries, nerves and muscles you must now learn to distinguish between the various alterations in structure and form, which, occur in the machine whose separate parts you have been studying, and you must seek to devise appropriate plans of treatment for the cure of these derangements. When you consider the nature of these duties, how much depends upon your future knowledge and ability; how large a portion of happiness you may produce by the skillfulness of your treatment, or on the other hand, how much misery, mental and bodily, you may inflict by the mistakes of your ignorance, you will not, I am sure, once require to be told that all your energy—all your attention must be employed to accomplish the task before you, and that the same praise worthy diligence you have hitherto displayed must be exercised with renewed ardour, that your zeal must be unwearying, your labor unremitting.

To this you are more especially behoven when you consider the miserable state of the healing art amongst your countrymen. When you contemplate the frightful mischiefs of quackery, the fatal effects of ignorance daily manifested around you, you must see ample cause to strain every nerve to remove these crying evils. Remember the proud position in which you are placed: recollect that if you avail yourselves of the opportunities here offered you, to you will belong the high honor of first introducing amongst your brethren a radical improvement in the medical art. For when the superiority of your knowledge over that of the common native practitioner shall become conspicuous, as needs it must do? your countrymen will gladly avail themselves of it, as the richer portion of them now do of the superior science of the European surgeons and physicians.

The hope of emulating *your* success, will then induce others to follow your example. It will serve as an incitement to those who are now content with ignorance, to make themselves masters of the same knowledge, which will have rendered you so conspicuous. The trade of the quack will fail, he will be compelled to educate himself rationally, and study his profession as a science, or starve'. He will no longer be able to fool away mens lives by his ignorance and chicanery.

Be assured, that the formation of this noble institution, (for the establishment of which

you cannot be sufficiently grateful to its enlightened founders) will be a death blow to the reign of empiricism in India. Every syllable of instruction conveyed within these walls, saps the foundation of the empire of quackery which has so long triumphed in this country.

It is true that many of the native physicians pretend to great learning, and no doubt they have spent much time and labor in pouring over the precepts of the Shastres and the aphorisms of the Arabian philosophers; but in approaching the study of medicine as a science you will find that from your own medical works of the highest repute, or from the experience even of the best informed of your practitioners you will derive but little assistance or instruction: How can it possibly be otherwise? The medical art in India such as it is, is founded upon no knowledge of anatomy, no principles of Physiology. It is utterly devoid of all Pathological research, objects which must necessarily form the basis of all scientific enquiries upon the subject. On the contrary, it consists of a set of dogmas generally as ridiculous and injurious as they are unintelligible stating for example that all deseases are either of a hot or cold nature, or that they are produced by humors in the brain or in the liver; opinions formed without any reference whatever to the actual condition of the organs, or of their functions; either in a healthy or a diseased state. Resting upon such unsound foundations, with regard to the cause and nature of diseases, how can we expect the plan of treatment to be more valuable upon such opinions.? If possible it is still worse, more ridiculous, and far more mischievous. The hot and cold diseases require antagonizing cold and hot remedies to counteract them; and such a collection of drugs and useless compounds as the unfortunate patients are compelled to swallow can scarcely be conceived by one educated in medicine after a rational manner. But they are worse than useless. There are too many of them positively injurious in the highest degree, many of them so dangerous that it is horrible to reflect upon the effects which are frequently produced by them. Death itself would be a mercy in comparison with the consequences which I have sometimes seen to ensue from the administration of some of these poisons. Amongst the rest I may instance mercury, which in the hands of the native practitioners play sad havoc with the miserable victims of syphilis. Aconite under the name of *bis borie* is used to an extent which frequently produces the most lamentable results; for example madness, epilepy and a host of others which we have not now time to speak of; but which we shall have too many opportunities of observing hereafter. When speaking of the state of native medicine in this country there is one subject to which I cannot avoid referring. I allude to the destitute state of the sick poor. The better classes when attacked with illness can obtain some sort of assistance, and those who are rich enough can procure European doctors to attend them. But alas! the poor are for the most part totally helpless; they have no where to look for aid of any kind, they die by thousands for want of the commonest relief. It is indeed a sad stigma upon their wealthier fellow countrymen that only one native hospital exists in this enormous city, and even that in a great measure is supported by Government. It is true that it has been for some years proposed to establish another one, but the attempt has hitherto proved abortive. Some few of the more enlightened natives have in a most laudable manner, lent their support to its establishment, but their example has not been followed by others; and amongst a population rolling in riches, thirty thousand rupess only has been scraped together with no small difficulty. A very small portion of the enormous wealth possessed by some of the rich baboos. Wealth either hoarded by them in large iron chests where it lies useless alike to themselves or their neighbours or squandered in the pomp and foolery of a religious procession or a marriage ceremony, would erect hospitals and dispensaries through every town in India, where the poor might find relief from disease and a refuge from the horrors of a lingering death. Though I would fain hope that better times are coming I fear they are yet distant. But to return to the more immediate subject of the lecture.

The practical part of the Science gentlemen, which you are engaged in studying, is divided into two portions. Surgery and the practice of Physic. The former comprehends all the maladies which appear externally, including the accidents to which the body is liable; such as fractures, dislocations, wounds, and the various manual operations which it may be necessary to perform for the cure of diseases; in fact, all maladies which admit of the remedy being applied directly to the part affected.

On the other hand, the practise of physic treats of the diseases which affect the internal organs of the body, those parts to which we have no direct access; diseases whose progress we cannot witness, of whose nature we can only judge by the effects which they produce upon the system; generally such for example, as diseases of the viscera, disturbance of the great functions of circulation respiration, digestion and of the nervous system. There is however one class of diseases which have been placed within the limits of Physic, which, according to all established rules we should expect to find within the precincts of surgery. The *diseases of the skin* have from time immemorial formed a part of the study of Physic, yet, if it is possible for any one set of diseases to be more clearly a part of the *outside* division than another, it is these. They are the most superficient of all externally, and the most readily treated from without. In the division between these two branches of the profession it is manifest that Surgery has the most advantageous share of the work. The Surgeon can see his way clearly before him, he may watch from hour to hour the changes which are taking place in the

organ which he has to treat, and he sees at once the direct effect of the remedies which he applies. On the other hand, in the practice of physic all is comparatively dark and uncertain. The physician for the most part sees nothing of the disorder he is treating, but the general symptoms; he cannot observe its pregnancy or ascertain distinctly the operation of his remedies. His practice is Surgery in the dark. His situation resembles that of the surgeon who may be called on to treat a disease of the arm or leg while the affected part is, studiously concealed from him behind a curtain; and he is only permitted to see his patient's tongue or feel his pulse. We should expect from this that Surgery would be considered the more perfect art of the two, or at least that it would have held an equal rank with Physic, but it has not, until lately, been so regarded.

In former days, Physic was deemed a noble science, while Surgery was a mere mechanical drudgery. The Physician was looked upon as a superior being, while the Surgeon was treated as a common artisan. The Physician ranked with the learned and the great while, the Surgeon was associated in the same ignoble trade with the Barber. This ill-assorted union of shaving and surgery continues up to the present day. Some parts of Europe and in the East there are still no other surgeons than the Barbers. In the more enlightened countries of Europe, and America however, in consequence of the great progress which has been made in the department of surgery, that science has been raised to a level with Physic; and the Practitioners of both classes are placed upon an equality; indeed they are now constantly united in one person. In England, however more especially in London, the separation still exists to a great extent. The Surgeon and the Physician are often saparate individuals. This distinction however, for all practical purposes, is extremely absurd and inconvenient. The two branches of the profession blend so insensibly into each other that no fair line of demarkation can possibly be drawn between them.

There is yet another and an important division of medicine, the study of which forms a separate branch of education. One however which at present you cannot study; hereafter perhaps an opportunity of doing so may occur. I allude to the department of *midwifery* and the diseases peculiar to women. It is a department which the prejudices of the east will not admit the male part of the community to practice; and it is consequently in the hands of women of the most ignorant description, who daily commit mischief still more dire than those perpetrated by the quacks of the other sex. I do hope, however, that the time will come, even in our day, when your country women will participate in the benefit which an improved state of medical knowledge will produce in this land. If we are not allowed to practice this branch of our profession, I trust that well instructed female practitioners, in midwifery like those of France, will ere long, occupy the place of the wretched old women who now perform the offices of midwives and female Physicians. This distinction of Physic and Surgery, foolish as it may be in a practical point of view, is however extremely useful to the student, and universally adopted in all Medical Schools. The two branches forming properly enough, separate portions of Education.

In furtherance of this plan therefore, the present course of lectures will be devoted to the study of Physic, alone. Surgery you will learn in due time under the guidance of my talented colleague, Principal Bramley.

In studying Physic you will soon find that you are not engaged in fathoming the depth of any exact science. So far from it medicine is unhappily, the most uncertain of the whole The nature of the subject frequently renders the investigation of its Phænomena highly unsatisfactory; and our conclusions with regard to it are too often uncertain, much as our knowledge of disease has advanced within the last few years, we are still comparatively ignorant upon many points connected with it. Even up to the present day we are at times compelled to wander in the land of speculation, without a compass to guide our way, or at the best with one so imperfect, that it often directs us in the wrong track.

Although the present advanced state of medical knowledge may enable us to ascertain for the most part the nature of the various complaints to which the human frame is liable and to distinguish them from each other, you will find yourselves frequently at fault, and you will often have reason to know that you have formed a wrong judgment upon the disease you have been treating, and that your treatment has been altogether erroneous. There are cases perpetually brought before us which baffle the utmost ingenuity of our art to discover their true seat, and still more completely set at defiance all our efforts to relieve them. This is perhaps more especially the case with the nervous system than with any other. The impenetrable mystery which envelops the functions of the system in a state of health, extends itself too frequently over the changes which are produced in it by disease; rendering them utterly unintelligible and two often incurable. But above all things be not disappointed if you find that your *curative intentions* do not always answer the purpose you wish them to fulfil. However correct may be the judgment you form upon the disease before you; and however well adapted your remedies may be theoretically; you will constantly fail in your efforts to obtain a cure, and you will be compelled to witness the complaint rapidly advancing to a fatal termination; in spite of all your efforts to arrest its progress. But console yourselves under such circumstances with the reflection that the patient is not immortal nor is the Physician allwise. Our art is yet comparatively so backward that the most talented and the most learned must occasionally fail for want of more accurate and extended information; under any circumstance however we cannot always succeed. Mortality is the lot of all living things. It is appointed

unto all men once to die, and the whole power of our art cannot diminish the natural mortality of mankind. The utmost we can hope to accomplish, is to relieve the sufferings of our fellow creatures, and to protract lives which, (but for our exertions) might sink into an early grave. True indeed as it is, that the Philosopher's stone is yet hid in the bowels of the earth; so you will find that the long sought after *Elixir of life* has hitherto been undiscovered. Do not however deem from this that our profession is one of little moment, so that because it is not all perfect it is not worthy of the most profound attention. You will soon find, I trust, that it is one of the highest value; that its effects are perhaps more important than those of any other. The success which attends the efforts of the skilful Physician are at times almost miraculous. The relief which he affords to the agonized patient, the signal triumphs which he is able to obtain over disease, the many blessings which he is thereby enabled to confer upon mankind, render the science, which is capable of endowing its votaries with such power, one of the grandests and most ennobling which you can pursue.

In seeking to cure the diseases which are brought before you, you will find that the great remedial agent, the power upon whose aid alone you can depend for assistance in the time of need; whose laws must be the basis of all your principles and the guide of your actions, is *nature.* You have already seen her working in our bodies in the time of health, regulating all our functions and directing the various processes which constitute life. Be assured she does not neglect us in the hour of sickness. When we are attacked with disease we find her striving to drive off the enemy, and inventing plans to eject him from our bodies. The disposition thus evinced by the power within us, called by the ancients the *vis medicatrix naturæ* or in plain English, the curative power of nature, is constantly acting for our advantage and pointing out to us the path, which, as physicians, we should pursue. By watching the operation of that power. We learn to proceed upon rational principles, and we employ our remedies towards the right object. We find for example, that cases of fever often terminate spontaneously by the bursting forth of a profuse perspiration or the occurrence of what is called a critical discharge of some kind, a smart Diarrhæa for instance. Observation of these processes at once suggests to us the employment of medicines which have a similar effect. Following nature's footsteps, then we administer to our fever patients diaphoretics or medicines which have a tendency to produce perspiration, and emetics, cathartics, or purgatives which create a free discharge from the alimentary canal. Again we find that the sudden suppression of certain cutaneous eruptions tends to produce a disease in some internal organ, whilst on the other hand internal diseases are frequently relieved by the spontaneous occurrence of an eruption on the skin. From this we learn the employment of counter-irritants, or in other words, the irritation of some part of the body distant from the seat of disease, which by setting up a new process in a remote spot, causes the original irritation to subside. Indeed we have reason to believe that many of the diseases which we behold are merely the effects of nature to get rid of some offending matter. Thus the presence of certain indigestible substances in the alimentary canal induces a violent purging. This is nature's effort to remove the annoying matter, what can we do under such circumstances? we can but follow the manifest indications before us. We must aid the efforts of nature by giving a more powerful stimulus to the irresistible action of the bowels, and by thus encreasing the diarrhœa *temporarily*, we remove the disease *permanently.* Many similar instances might be adduced if we had time to refer to them. Bear in mind always that nature is the great Physician, and that we are merely her assistants; that our business is to watch her motions closely, obey her dictates, and aid her efforts. The most successful medical practitioner is he who contents himself with obedience to these laws of nature, who follows her counsels most implicitly.

You will soon learn that the more simple your remedies are the better it will be for your patient, and easier will be the treatment of the disease, and that by an unnecessary interference with the *vis medicatrix naturæ* you not only retard the progress of the cure, but you may produce a new disease equally formidable with the one you are anxious to remove.

With regard to the employment of remedies I need not say much at present as in this course of lectures, I do not propose to enter into any minute details upon the subject. Hitherto you are ignorant of the science of materia medica you know not the names much less the properties of the various drugs which you are to employ in the cure of disease; it would be premature therefore to speak at length of the employment of these articles. Indeed in the ensuing lectures I shall seek rather to lay before you the theory and principles of the science than the practice of Physic strictly speaking. I shall endeavour to point out to you the general history and arrangment of the symptoms and the various conditions of the affected organs which they indicate, the judgement. you may form from thence upon the probable termination of the disease, and give you merely an outline of the general plan of treatment to be pursued. Next year the lectures will be formed upon a more extended scale and partake more of a practical character while chimical lectures will from time to time be delivered to you upon such cases of interest, as you may meet with in the hospitals. Principal Bramley will then assist me with the benefit of his extensive experience in illustrating the practical part of the subject.

E'er you enter upon the branch of study now before you let me warn you that attendance upon lectures, however assiduous, or the most

attentive perusal of medical works will never make you skillful physicians; while you confine yourselves to them alone. There is but one school wherein you can hope to succeed in your studies to any great purpose. In the school of experience. It is only at the bed side of the sick by observing closely the symptoms and progress of disease, watching the effect of remedies, and should the termination of the malady prove a fatal one and the death of your patient afford you an opportunity to inspect the body, by carefully noting the changes which have taken place in the various organs. It is only by these means that you can hope to render yourselves worthy and useful members of the profession you have chosen.

The character of disease alters so completely under various circumstances that we can scarcely hope to find the same complaint exactly alike in any two individuals. It requires the study and experience of years to form a skillful medical practitioner. Up to the latest hour of your lives you will find that you have yet much to learn, and each day will bring with it a lesson of more or less consequence. Do not on this account however undervalue the instruction conveyed to you in lectures and books; whilst you studiously avoid a servile adherence to any peculiar doctrines, merely because they carry with them the weight of a great name; do not flatter yourselves that you are above instruction or that your own labor and ingenuity however great, can entitle you to despise the performance of others. As beginners this is more especially applicable to you. Until you have made yourselves masters of the rationale of disease and the principles of treatment your visits to the sick will be a complete waste of time. Let me beg of you therefore to peruse with care the admirable medical works with which our library abounds and to pay close attention to the lectures you may have an opportunity of hearing.

By following the plan of study which will be marked out for you you will I trust find yourselves insensibly acquiring an intimate knowledge of your profession a knowledge which will never desert you in the time of need. The great advantage of which you will daily experience when you go forth into the world to practice for yourselves. If on the other hand you neglect these opportunities, opportunities never again to be recalled, you will soon have cause deeply to lament your idleness. No situation is more pityable than that of the medical practitioner who finds himself at the bedside of a patient affected with some dangerous disease while conscious of his own ignorance and utterly at a loss to determine upon what plan of treatment to pursue, he beholds the unfortunate victim of his incapacity hourly growing worse, and gradually sinking to the grave from which he has no power to rescue him. Unless indeed some lucky chance occurs, which this ignoramus has the degradation to know to be the effect of some unforseen good fortune and can in no wise be attributed to his skilful management.

How different are the sensations of the studeous and skillful practitioner under the same circumstances. He is confident that, as far as human art will permit, he is capable of assisting to the uttermost, the suffering individual before him. He has no legitimate source of regret for ill spent time—no stings of conscience upbraid *him*, that the fatal result is owing to his ignorance or inattention. He has done all that lies, in his power; he has performed his duty and is satisfied.

He feels on the other hand a proportionate degree of satisfaction if his efforts are crowned with success. If the termination of the case be favorable, the knowledge that his power and well directed skill may have contributed to produce it, amply rewards him for the labor he has expended in acquiring the requisite qualifications for his profession. Let me hope that you will take part with the latter and that you will strive to emulate his course. Let me repeat to you that the science of medicine is one of the most interesting studies to pursue, one of the noblest arts to practise, to which an intelligent and well educated man can possibly devote himself. The Physician wields a power which is capable of affording the purest happiness, the most valued of all blessings to his fellow creatures. By the skillful exercise of his art he saves mankind from misery and premature death. He restores peace to the wretched—he adminsters consolation to the unhappy, he gives life to the dying. By the timely interposition of his aid he is enabled to rescue from the fangs of disease, from the jaws of death the most valuable members of society, the benefactors of the human race; the great, the learned, the virtuous. And in the humbler walks of private life his labors are equally valuable. While he affords to the suffering individual himself corporeal ease and mental tranquility, by restoring to the bosom of an afflicted family some loved member of their circle, the support of their existence, the joy of their hearts who is about to be snatched from them by some terrible disease, what happiness does he confer,? what frightful misery does he remove ?

The practice of our profession, gentlemen, may occasionally be embittered with disappointment and annoyance, and where shall we find one that is not, but these drawbacks are more than counterbalanced by the unalloyed satisfaction, the unspeakable pleasure which such deeds as these produce.!

May 3, 1836.

ON THE DETENTION OF THE PLACENTA.

By J. Ronald, Esq.

To the Editor of the India Journal of Medical and Physical Science.

Dear Sir,—Should you consider the following case of Midwifery, viz., Detention of the Placenta, to be deserving of a place in your Journal of Medical Science, you are at liberty to publish it. About a year ago I was

hastily called to visit a Lady who had half an hour previously been confined of a ful grown healthy child, and was attended by an experienced and able midwife. On my arrival I found the placenta had not come away, that profuse hæmorrage had taken place and which still continued, the pulse at the wrist was very weak and quick, lips blanched and dry, countenance anxious, considerable restlessness, slight spasms in calves of both legs, accompanied with a distressing apprehension of death. On examination I gently pulled at the cord, but felt that it offered resistance. I now ascertained the state of the uterus, and found the placenta adhering very firmly to it, with a small part detached. I lost no time in insinuating my fingers round the edge, with a little difficulty I separated the adhesions, and brought away the whole of the mass,—slight uterine action which had quite gone, returned, the hæmorrage ceased, and after receiving a few doses of port wine negus, the symptoms of exhaustion began to disappear.

The usual bandage was then carefully applied. Both mother and child did well. Previous to this confinement the patient was the mother of two fine children, no untoward circumstance had attended her former accouchements, and her general health was good. When enceinte of her first child, (about four years before this last birth,) she received a hurt on the side, the effects of which occassionally since, gave her slight pain, and she felt it more particularly during this last pregnancy.

A very good description of detention of the placenta is to be found in Doctor Conquests outlines of Midwifery, and I beg to add a part of it, for the benefit of those who may not have the work.

"The third cause of detention of the placenta constitutes one of the most formidable and trying cases in obstetric practice. It arises from adhesion between the uterus and placenta, in consequence of the deposition of coagulable lymph from inflammatory action, which may have existed during gestation.

This adhesion is not often found to unite the whole surface of the placenta to the uterus, consequently, a part is loosened, and hæmorrhage, with a retraction of the cord on the cessation of secondary pains, excites suspicion of the state of things, and leads to an examination per vaginam.

The unaided efforts of the uterus can never detach and expel the placenta under these circumstances ; and consequently, the hand of the accoucheur guided by the funis, must be very carefully introduced into the uterus, and an attempt made to detach the placenta by drawing its circumference to the centre of the mass.

Should this effort be unsuccessful, one or two fingers may be very cautiously insinuated between the edge of the placenta and uterus, which must be slowly and tenderly separated. The hand should never be withdrawn, until the object is completely effected, and uterine contractions excited.

It is of great importance to remove every portion of the placenta, or hectic fever, or inflammation of the uterus, or hæmorrhage may supervene and destroy the woman. In some cases a very small piece has induced fatal results, either by hæmorrhage or irritative fever."

Midnapore, April 1836.

OF WOUNDS INCIDENTAL TO ARTILLERY MEN FROM THE SUDDEN EXPLOSION OF THE CARTRIDGE, IN LOADING.

By P. F. H. Baddeley, Esq.

[We beg to call the attention of the authorities to the following valuable communication from Mr. Baddeley.]

To the Editor of the India Journal of Medical and Physical Science.

Sir,—In accidents of this nature, two men usually suffer, the Loadsman and the Ventsman. In that occurring to the former, there is always considerable injury done to the forearm, the flesh of which is torn to rags, and the bones and hand shattered to pieces. It is also occasionally complicated with a fracture of the humerus amputation of the upper third of the fore-arm is generally called for (the Humerus if broken, having been previously set,) and when performed soon after the infliction of the injury, no bad symptom need be apprehended.

The muscles on being cut, present a dark and discoloured appearance, as if severely bruised ; and the surface of the stumps is irregular owing to a loss of the contractile power in the fibre ; for which reason also, the bones should be sawn higher than usual.

Minute splinters of the sponge staff and bits of cloth are apt to be forced into the substance of the integuments and may cause considerable constitutional disturbance, which is much relieved by blood letting and the application of cold water.

In that occurring to the Ventsman, the pad of the thumb may be ripped up, or the 2d Phalanx entirely blown off, exposing the articulating process of the first, which sometimes requires to be sawn off, to admit of the lacerated integuments covering the extremity of the four, here the pain and inflammation is often considerable; the repeated application, therefore, of leeches and cold water, indicated.

In consequence of the number of such accidents, I think that the means of obviating their recurrence, may be considered a subject worthy of consideration.

It is customary to attribute their occurrence, to the imperfect manner in which the vent has been served ; in my opinion, and in that of many artillery Officers, erroneously ; for, in 5 cases, I have been witness to, most of the ventsmen were invalided in consequence of the injury done to their hands, and in two instances, the 2d Phalanx was entirely blown off, clearly demonstrating the perfect manner in which

the vent was served, and also the impossibility of preventing such accidents by this method.

We are hence induced to inquire in another direction, for the true cause of this serious occurrence, and are naturally led to consider the state of the cartridge itself. The *Surge* or cloth used, is of so *open* a texture, as to permit the fine meal Powder to penetrate, and in many instances to *cover* the outside of the cartridge, particularly after it has received a violent shaking in the carriage.

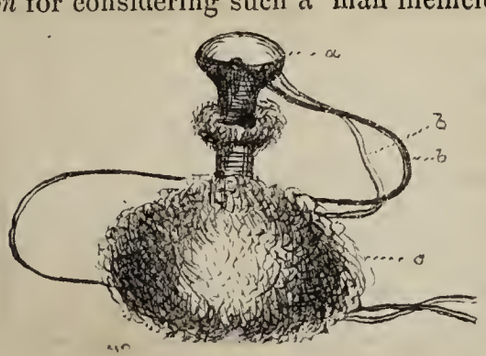
From this fact, it is easily conceivable, how instantaneously the slightest spark remaining in the chamber of the gun, could communicate with, and inflame, the whole.

It is observable too, that the accident rarely if ever occurs in Battery, where the cartridges are made up as required and suffer no concussion from carriage. The remedy then is only to be expected from using cloth of a more compact texture, or by steeping it in some composition that will fill up the interstices, without diminishing its pliancy. Should it not however be deemed advisable to adopt this means of preventing the occurrence altogether, the next point to be considered is whether some method may not be devised for preventing injury to the man who serves the vent :

For instance, instead of his thumb might not a *Pad* be used, somewhat similar to printer's ink dabber, covered with sheep skin? This would answer two purposes ; one to close the vent securely against fire from outside, the other as a substitute for the piece of tow now in use, for brushing away the dirt from the breech. And here, permit me to observe upon the custom of invaliding artillery men, for the loss or injury merely of their *left* thumbs, which has been supposed to render them unfit for the performance of their duties in that service :

It is notorious that they are *still capable* of performing every duty connected with that branch, with the single exception of serving the vent with the thumb of their left hands (However, were the pad used they would still be effective even for that duty.)

Those who advocate the system, can but adduce an extreme case, where 2 men only are left to serve the gun ; but here, one must act as loadsman, while the other primes and fires; and should he feel disposed to serve the vent at all, he does so with his *right* thumb ; for he stands on the *left of the trail*, as matter of course, so that there is *no reason* for considering such a man inefficient.



a. Of wood.
b. *b*. String attached to Pricker.
c. Sheep Skin covering the Pad.

OBSERVATIONS ON INTELLECTUAL AND CORPOREAL ACTION.

SECTION III.

To the Editor of the India Journal of Medical and Physical Science.

I shall say something upon the nature of our subject, although in writing these, papers, my intention is not to dwell upon any topic, but what strictly relates to the influence of the mind over the Body; nor do I mean to make any other observation, but such as tend to illustrate the powerful effects of thought and passion upon animal life. Setting aside then, the perplexing doctrines of metaphysics, Ethics, and every other kind of *ics*. I beg to proceed as I have done : to lay before me a few facts, and to draw positive conclusions from them.

But if the reader condescend to indulge me with his attention, I shall just show him that our subject is not foreign to medical science. Mr. Abernethy in speaking of the utility of Catamenia, said that he thought the discharge, was intended to allay the irritability of the organs from whence they came : and to preserve those social compacts, which made society cheerful. Not being able to find any other reason for this periodical flow of blood the eminent gentleman gave this very cogent reason, adding on the occasion that he loved to deduce moral conclusions from physical facts. I have given this *anecdote* from memory ; but I hope I have not altered the substance. There is scarcely a medical work in which the author does not express some opinion regarding the influence of the mind over disease.

Denman refers to the force of imagination and anxiety upon parturition. Avery in his treatise upon Dyspepsia, is copious on the matter. Darwin, Garnett, Moseley, down to Corbyn, all refer to the subject with much earnestness. Nor are investigations of this nature merely speculative : as the pulse is the index of the heart, the tongue of the stomach, so may the mind be the criterion to judge certain forms and stages of disease.

Thus in the dyspeptic patient it is almost certain that when bile is irritating the nerves of the intestines the subject becomes possessed with blue devils and mimosis inquieta : a gloom comes over him, without any moral cause but from a physical one. It would be a waste of time and paper to multiply *instances* in support of our writings. Even Mr. Blaine who has written an excellent work upon canine pathology states the extraordinary effects of a severe threat to a sick dog. He says these animals require a degree of soothing and kindness during ill-

ness to insure recovery. I have with more willingness pointed out the connection of my subject with medical writing, because the matter in the medical journal has lately been, much talked about. I only beg to defend my physico—metaphysical science, and no gentleman in the profession will deny its connection with pathology. If the reader turns to the Lancet for 1825 he there will find papers by Dr. Spursheim on phrenology; an ungrounded science which bears no direct analogy to any branch of medical science. At all events my much respected friend the editor of the Englishman will not say I am poaching in his manor. Let us wind up these observations with a remark, from Dr. James Johnson: "As the nervous and vascular systems are so particularly under the influence of the mind, we may readily form some idea of the wide range of effects resulting from the various and almost unlimited play of the passions among so thinking and so reading a people as the English nation."

In the next section we hope to resume our labours.

J. Guthrie.

Sulkea, May 14, 1836.

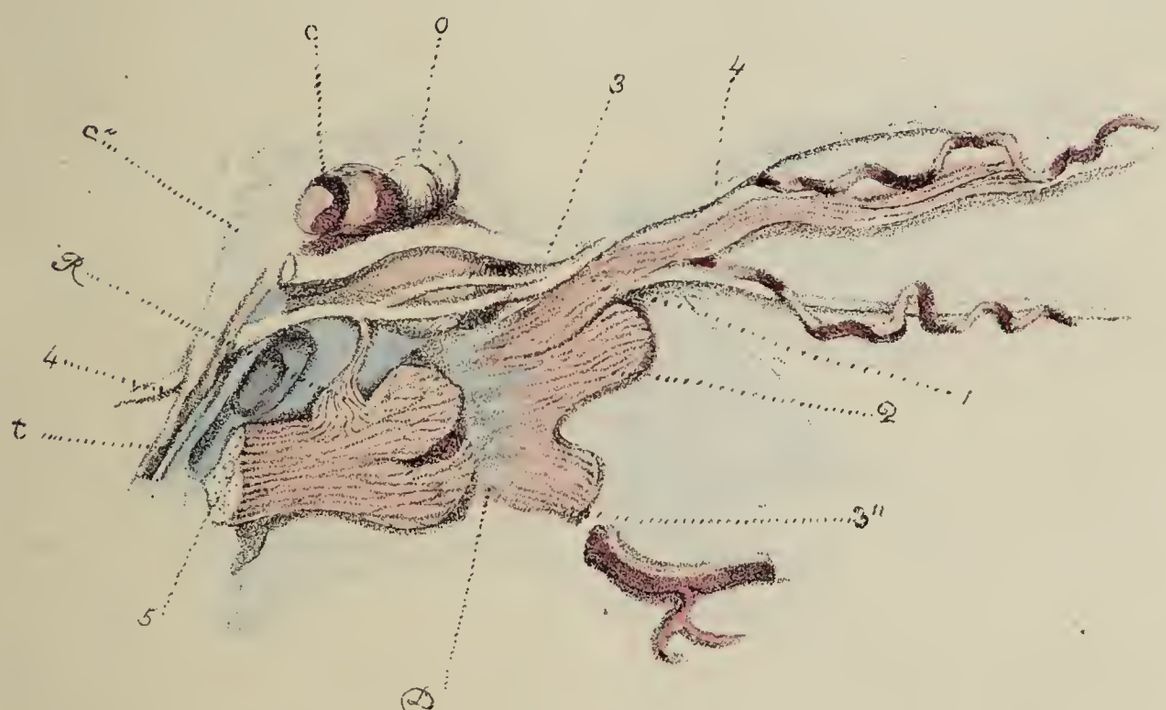
REVIEW.

Treatise on Diseases of the skin founded on new researches in Pathological Anatomy and Physiology, by P. Rayer, D. M. P. *Translated from the French, by* William B. Dickinson, M. R. C. S., 8vo. p. p. 398. Messrs. Thacker, and Co. Calcutta.

The translator of the present work states that he had frequent occasion to refer to the writings of cutaneous nosologists; but as he discovered many inaccuracies in them, and they did not yield according to his expectations the information he desired with respect to the treatment of this class of diseases, he was led to extend his researches among foreign uathors. He was so struck with the classification of Rayer's work, its applicability to practice, and the accurate description of diseases, with the rationale of treatment, that he determined to translate the work. With this outline of the preliminary remarks of Mr. Dickinson, we hasten to the translation of the work itself. It opens with an introduction by Rayer, who states that he had devoted several years to the particular study of the diseases of the skin, and modestly adds that he publishes his researches and observations only in the hope of being useful to students. We feel much inclined to doubt the assertion, and when we look at the original work on our desk, splendidly got up as it is and enriched with some of the most valuable and beautifully executed plates we have ever seen, we can scarcely suppose he intended it for students only. And we would venture to say that M. Rayer would be the first to feel chagrin and disappointment if he found that his work was not in every library nor studied by the learned faculty of Paris. Our author is right in saying that the study of the nomenclature of the diseases of the skin is alone a long and painful undertaking. He has not certainly spared himself: in proof of which we need only state, that he has not only dedicated an etymological and historical article to each denomination composing it; but he has collected the terms in a vocabulary affixed to the end of the work. This however, we are sorry to say, Mr. Dickinson has omitted, from a belief that the most familiar synonymes are those used by English writers, and therefore to give them would be to swell the bulk of the work. This omission as well as that regarding the plates makes the translation very inferior to the original, and we hope, should Mr. Dickinson favor his countrymen with a second edition, that he will supply the desiderata. We are glad to perceive that Rayer possessed a higher opinion of the writings of cutaneous nosologists than his translator, in proof of which he adopts the nomenclature of Willan, and compliments the author on his accuracy. Alibert's eulogium by our talented writer is too unmeasured. He calls his colleague's production a magnificent work on the diseases of the skin. We concur in these opinions, and hope Mr. Dickinson meant the same, which would not in the least have lessened the value of the present translation. Rayer has added much to the writings of his predecessors, but he has not detected many errors in them; although he improved their descriptions of the diseases of

A view of an Anastomosis. between the 4th Nerve and the Casserian Ganglion drawn from a dissection made in 1826.

By P.F.H. Baddeley Esqre



O..... Optic Nerve
C..... Caroted Artery
3"... 3rd Nerve.
44.... 4th Nerve or Trochlearis
5..... 5th Nerve
D..... Casserian Ganglion intimately connected with Dura Mater.
5th
1..... Opthalmic Branch of the 5th
2..... Superior Maxillary nerve
3..... Inferior Maxillary nerve
R..... Branch of the 4th nerve anastomosing with Casserian Ganglion.
t..... Fold of Tentorium.
C"..... Posterior Clynoid Process

the skin by his admirable illustrations. As a translator Mr. Dickinson merits the highest praise, in proof of which we beg to quote the following passage from the introduction, which will also shew our readers the nature of the work itself.

"Most of the older pathologists who have written *ex professo* on diseases of the skin, have not given any cases of them; it is felt, however, how necessary they are to establish certain particulars of general descriptions. I warn pupils also, that among the cases published there are a great number the titles of which are false. Some entitled *elephantiasis*, are really cases of lepra; others published under the name of *impetigo*, are cases of psoriasis. Many of these cases are obscure, because expressions have been employed in their description the sense of which is undetermined, or rather, because the most opposite terms have been used indiscriminately to designate the same alteration. One speaks of a *tubercle* while he means *a crust;* another indicates a *squamous plate*, under the name of *pustule*, *&c.* In truth, these cases cannot be consulted with advantage until after a very extensive knowledge of diseases of the skin has been acquired. These writings, then, may be considered as a means of exercising our diagnosis.

I ought to add, that among the observations already published on diseases of the skin, there are fortunately a great many which are not only exempt from these grave objections, but which ought to be considered as models, on account of the minute exactitude of their descriptive details. Most of these have been collected by the authors of much esteemed monographs, from whom I have borrowed them. There are other cases which I have thought ought to be looked upon as it were in the light of new observations, showing that identical alterations have been described under very different denominations. Lastly, I have given some cases abstractedly, that they may be totally disengaged from old hypotheses or trivial remarks. Most of these cases recall therapeutic experiments, the repetition of which is still of use under better determined conditions.

The other cases given in this work have been observed in the course of my own practice at the fourth dispensary, at the consultations of the central bureau, or in hospitals during the provisional duties I have been called upon to fulfil; these cases are distributed in the different chapters of this work. I have enlarged upon some points of them which have appeared to me obscure, as well as on some diseases, which, by their frequency or gravity, present an equally great interest to the therapeutist.

If the disagreement of nomenclatures and classification has been an obstacle to the progress of our knowledge of diseases of the skin, the imperfection of general descriptions has been still more felt. Most of the symptomatic sketches transmitted by the Greek, Latin, and Arabian physicians, were enigmatical, on account of their extreme conciseness; their translators, by false interpretations, have rendered them still more obscure. New observations have since been added to them from time to time, as they have been made; but such disorder has reigned in this collection, that it has now become indispensable to search carefully among this crowd of descriptions for those which are true, so as to distinguish them from others which are made to connect dissimilar facts, or which are formed by the fanciful assemblage of symptoms borrowed from two or three different diseases.

In making this analytical study one cannot help acknowledging that Willan is, of all who have written on diseases of the skin, the one whose descriptions are most constantly correct. Under this view, his works are very superior to those of our modern classifiers, whose treatises contain a certain number of those false descriptions of which I am about to speak. I point out several with the more freedom, having myself had the great misfortune to follow them.* Read attentively the description of the *squamous dartre*; examine comparatively the different cases of it which have been published, and you cannot fail to observe that the description has been made up of some symptoms of lepra, some of psoriasis, *lichen agrius*, and chronic eczema. Proceeding in the same manner, you will find, in the *crustaceous dartre*, the elementary symptoms of eathyma, rupia, and impetigo. In the description of lepra, a confused picture of the elephantiasis of the Greeks and Arabs; in the *phlyctenoid dartre*, a confusion of the symptoms of zona and pemphigus; and in *erythemoid dartre*, a mixture of the symptoms of urticaria and erythema, &c."

M. Rayer states that very few anatomical researches have been made in the diseases of the skin. Some of the authors, who have pointed out the importance of those researches, have in Rayer's opinion given them a false direction in pointing their attention principally to internal lesions of the lungs, digestive organs, and uterus, which have taken place accidently in individuals attacked by chronic diseases of the integuments. Our author also states that the chemical analysis of the morbid humours, liquid or dried, secreted by the diseased skin, furnishes characters only of a secondary interest. He admits, we are happy to find, that it is not generally proper to neglect such kind of investigations. The following remarks on the illustration of works by plates on the diseases of the skin are worthy of notice.

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* *Dictionnaire de Médecine*, en 18 vols., art. *Dartre*.

"Some authors have endeavoured to make their descriptions of these diseases more striking by the aid of coloured figures: the two most beautiful collections of this sort are, without exception, those of Willan and Bateman,* and of Alibert.† Most of these plates exhibit, however, only one of the stages of the inflammation which they are intended to represent. Thus it happens, that some disease described as *pustulous* has been exhibited in the *squamous* state; that some other also, placed among the *pustulæ*, has been represented in the *tuberculous* state; that others, lastly, have been only drawn in the state of *crusts*, a secondary character, and common to several very different forms of *phlegmasiæ*. These faults I have endeavoured to avoid in arranging the plates of this work. The primary forms of the inflammations of the skin, and the alterations which succeed them, have been represented carefully after nature, or the best engravings that have been published."

We concur in the opinion that the etiology of diseases of the skin has been more the subject of hypothesis than of positive research. Some of these affections are, says Rayer, contagious, by which he means that they are transmitted by means of particular agents, known under the names of virus or miasmata. Among these contagious diseases he arranges variola, rubeola, itch, and those which are syphilitic. We observe, that the number of diseases susceptible of being transmitted by inoculation is not yet decidedly ascertained: we are ourselves of opinion that a vast field is open here for experiment and research, and the day is not distant when great discoveries will be made in the improvement of the means of lessening or destroying some of our most virulent cutaneous affections. Our author distinctly states that man is only once affected with variola, rubeola, and scarlatina. Generally speaking we admit the assertion; but there are exceptions in Rubeola especially. Two attacks in the same individual have frequently come under our observation. The following remarks are worthy of notice.

"A multitude of chronic inflammations are produced by uncleanliness, or other agents, which directly irritate the skin; and it is to this want of cleanliness in the inferior classes of the people, that Willan attributes the frequency of cutaneous diseases in London: he also expresses a wish that the public baths might become more accessible to the lower orders. In France, the desires of the profession have been met by the active philanthropy of the administration of hospitals of Paris, who have placed within reach of the poor, privileges, to the possession of which the rich alone aspire in other countries. The number of gratuitous baths which are given at the hospitals of St. Louis and La Charité, is truly prodigious: in 1822 it amounted to 127,752, for the out-patients only of the hospital of St. Louis."

This is shewing a consideration for the wants of the destitute, which is worthy of a great nation and of being copied by all other countries. Among the causes which Rayer enumerates, he refers to those on the internal organs, and in particular to those of digestion and innervation, and which thus produce, in a sympathetic manner, the development of diseases of the skin. Touching the alteration of the skin through the influence of certain agents carried into circulation, he specifies its discolouration in icterus and alludes to the dark tint which follows the long use of the nitrate of silver. He ridicules the supposition that incurable diseases of the skin are kept up in consequence of the acrimony of the blood, and defect of humours. Notwithstanding the recent progress of animal chemistry, Rayer would not have the question of humourism decided by experiments.

"The mucous and serous membranes, and organs of a more or less complete texture, offer also numerous examples of intractable chronic diseases developed without assignable causes; and if the theory of alteration in the blood is to be applied to all cases the etiology of which is obscure or unknown, it would not be necessary to confine it to one single tissue; and, if it has been too easily admitted that the blood is altered in almost all chronic diseases of the skin, it is well proved that it is so in jaundice and in carbuncle; and it is probable its composition is modified in rubeola, variola, and in some cases of purpura hemorrhagica, &c.

Some cutaneous diseases are almost constantly congenital, as ichthyosis, *nævi*; others are observed especially in infants and adults; there are some, lastly, most common in old age.

Nightmen, and individuals who live constanly in an atmosphere charged with sulphureous exhalations, are rarely affected with chronic diseases of the skin, while other professions seem to predispose to their development. A superficial study of this influence of professions on the state of the skin had led to

* Bateman (Th.) *Delineations of Cutaneous Diseases*. 4to. London, 1817.
† Alibert. *Op. cit.*

the supposion that they were capable of producing particular diseases. Eczema of the hand has been described under the name of *grocer's itch*, and psoriasis of the dorsum of the hand, under that of *baker's itch.*

With respect to climate, seasons, and age he observes as follows :

"The influence of climate, seasons, and ages, more marked and better ascertained than that of professions, impresses on the disease modifications which it is necessary to study ; but they have unfortunately been made the ground of nosological distinctions. A crowd of complex denominations, among which it will suffice to cite pemphigus *of the Indies*, of *Brazil* and *Switzerland*, lichen of *the Tropics*, lepra of *the Arabs*, of the *Greeks*, and of the *Jews ;* the sweating disease of *Picardy*, &c., the roseola of *summer* and of *autumn*, eruptions of the *spring*, &c., ryseola of *infants*, prurigo *senilis*, pemphigus *infantilis*, &c., record, even in the present day, how much this influence has been exaggerated."

We shall resume our review of this interesting work next month.

THE INDIA JOURNAL
OF
MEDICAL AND PHYSICAL SCIENCE.
Calcutta : July 1, 1836.

CONSTITUTION
OF THE
MEDICAL DEPARTMENT.
H. C. Service.

In resuming this subject, we shall endeavour to enter into every particular connected with the Medical Service in India; because we desire to exhibit a full view of its constitution; we shall therefore be guided solely by official documents. By pursuing this plan the Court of Directors and the Proprietors will learn the real character of their Medical Service, those who are looking forward to enter it will be able to estimate its value, and much information will be afforded to our Medical brethren in Europe; for nothing there is clearly known concerning what is called the Indian Service. Our Journal long before this has been in the hands of the faculty in Britain, France, and America, and therefore subjects of this nature will excite a lively interest in the Medical student who is calculating upon the locality which is to form the future theatre of his "hopes and fears." let not therefore our brethren here have their patience exhausted by the consideration of well known particulars and tabular statements which they may find in this article.

The plan we propose to adopt in exhibiting the constitution of the East India Company's Service is, first to arrange numerically the Medical men in the three Establishments, the rates of their pay commencing with that of the junior grades, and the periods which usually elapse previous to attaining the higher grades. We shall then contrast the pay and advantages of the King's with the Hon'ble Company's Services. After this we shall proceed to examine the four departments, namely, the Board, the Superintending Surgeons, the Surgeons, and the Assistant Surgeons. We shall then shew the defects as regards duties and pay of each department separately. And finally conclude by pointing out what we conceive expedient to place the service on an efficient footing.

The Indian Medical Service is divided into three Establishments, Bengal, Madras, and Bombay. On the Bengal Establishment there are three Members of the Medical Board, ten Superintending Surgeons, one hundred and seven Surgeons, and two hundred and forty-three Assistant Surgeons. On the Madras Establishment there are three Members of the Medical Board, nine Superintending Surgeons, sixty-one Surgeons, and one hundred and sixty Assistant Surgeons. On the Bombay Establishment there are three Members of the Medical Board, four Superintending Surgeons, thirty-three Surgeons, and one hundred and nine Assistant Surgeons. This affords a total of Medical men in the Honorable Company's Service of 736 men. The pay of these not being a consolidated allowance differs from that in the King's Service. The currency in which they are paid is what is now called the Company's rupee, the intrinsic value of which is about 1*s.* and 11*d.*

An Assistant Surgeon on his arrival in India, is appointed to the General Hospital, where he remains for two or three months, and then he is attached to a Regiment, or placed at a small civil station. If attached to the former at a Half Batta Station his consolidated allowances will amount to Company's Rupees 225-8 or at the above rate of Exchange to £23,1 Shilling. After he has been in the Service about five year's, it is probable he may attain the Medical charge of a Regiment which will increase his allowances to Rs. 360-8 or £ 34-10-11$\frac{4}{8}$. If at a full Batta Station, he will draw 421 Rupees 10 Annas or £ 40-8-1$\frac{3}{4}$. Let us now consider his expenses: but before stating these, it will be necessary to observe that in coming to India an Assistant Surgeon defrays the expense of his own out-fit and passage to India, charges, which after the most rigid economy cannot amount to less than £200. On his arrival in the country, a Regulation tent, a horse, saddle and bridle; chairs, table, cooking utensils, and his Regimental uniform will also, with economy, never fall short of £150 more. This latter sum of money is generally obtained by a loan from Houses of Agency, the interest on which, including insurance of life, amounts to 18 per cent. The next circumstance we have to allude to is the number of servants the Medical man is unavoidably compelled to keep. A man servant in Europe will clean boots, shoes, plates, knives, and forks, and wait at table, arrange the furniture of the officer's quarters, clean his horse, and all this for a trifling remuneration. In Europe the officer has a mess to go to, and has no other expense in this department but for washing. In India the case is very different. Few Regiments have messes, and consequently the young Medical man is put upon his own resources. The peculiarity of religious customs divides and sub-divides the employment of one or two servants in England into that of 8 and sixteen in India. This is the consequence of the rules of caste, the servant who cleans boots and shoes dares not, if he would retain his caste, clean plates and knives, he who waits at table would rather sacrifice his life than sweep a room, and he who arranges the quarters would not, by all the arts of persuasion, touch a plate of which his master had been eating. Indeed, so tenacious are these men of observing the rites of their own castes, that in the northern parts of India awful instances of revenge have been known to follow an infringement of them. Waiting servants are always Mussulmans. One of these had been offered insult by his irritated master, the man left the room and returned with a sword and cut his master down.

Another instance occurred in Rohilkhund. A servant was ridiculed whilst in the act of prayer. Enraged, he grasped his sword, the gentleman ran for his life, fortunately the master being the swifter of the two, escaped by leaping a wall. When the infuriated Mussulman found he had no hope of the object of his revenge, plunged his sword into his own body, and died upon the spot. We have related these anecdotes merely to shew the customs of the country, and how bigotedly attached these men are to their caste. These rites should never be meddled with, and so strict are the regulations of Government on this subject that dismissal from the service is the consequence of interference with the religious prejudices of the people. Owing to the inability of interfering with caste, the following are the servants which become indispensable in India.

One sweeper	4
Bearers to carry, a Palanquin being included in the pay	30
1 Kidmutgar or waiting servant	7
1 Washerman	8
1 Water carrier	5
1 Cook	8
1 Scullion	4
1 Syce or ostler	5
1 Grass cutter	4
House rent	50
Tentage and travelling expenses	75
Subscription to the Military and Orphan Funds	6
Clothing, including bedding, shoes, &c.	20

Food, including wines (on the most economical terms).....	75
Contingencies, as Postage, Stationery, &c.....	20
Total..	321

Thus then his expenses amount to rupees 321 or £30-15-3 which are greater than his receipts. It may perhaps be deemed an exaggeration when we state the foregoing; but let it be tried by results, and it will be found that there is scarcely known among young Military Assistant Surgeons one in fifty, free from a load of debt.

The fact is, a medical man, especially when he first enters the service, is differently situated from any other officer, in the Hon'ble Company's service. If he is placed under His Excellency the Commander-in-Chief, he is so often moved from station to station that his expenses must inevitably exceed those we have enumerated.

The Assistant Surgeon who is appointed to a Civil station, and the more fortunate individual who joins and remains settled with a Cavalry Regt. are exceptions to the heavy expenses* to which we have alluded. But civil stations are now so reduced, as regards allowances, that these are scarcely more than sufficient to yield even a bare subsistance.

That there are appointments in the gift of the Government which yield a liberal allowance for the services of young medical men, we readily admit; but these are so few that out of the number of candidates they are in relative proportion, as prizes are to blanks in a lottery. We wish it were in our power to draw a more pleasing picture of the prospects of the young Surgeon. But alas! we should swerve from the line of duty we are contending for, were we to heighten the colouring, and veil the truth. In our next, we shall shew his pecuniary condition after a service of five years, when he may be supposed to have obtained the medical charge of a Regiment.

* Tentage and travelling expenses.

LECTURES

ON

MATERIA MEDICA, OR PHARMACOLOGY, AND GENERAL THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

By Jon. Pereira, Esq., F.L.S.

OPERATION OF MEDICINES BY SYMPATHY.

Some medicinal agents affect remote parts of the body, under circumstances which do not authorize us to conclude that they act by absorption; such substances are said to operate *by sympathy*. Let us inquire into the meaning attached to this expression.

All the different parts of an organized being have certain relations or connexions with each other; which are divided into three kinds or varieties,—the mechanical, the functional, and the sympathetic. It frequently happens that one organ in the performance of its functions exercises a mechanical influence over another. Thus the motions of the respiratory muscles have an important influence over the circulation of blood within the chest. By the contraction of the muscles of the fore-arm pressure is made on the deep-seated veins, and the passage of blood through them thereby obstructed. These then, are evident and clear cases of a *mechanical relation* between certain organs. We have also numerous instances of what I have called *functional relations*; but one example will suffice the liver cannot secrete bile if the supply of arterial blood, or of nervous energy, be cut off: hence it is evident that the function of the liver depends for its performance on the proper execution of the functions of the arterial and nervous systems.

But there is a class of relations which cannot be referred to either of the preceding heads, and which are called the *true sympathies*, or the *sympathetic relations*. Thus if we titilate the mucous membrane of the nose, sneezing is produced; if the soft palate, vomiting. These are but two out of many instances in which relations exist between organs connected neither mechanically nor functionally. We know not how sympathies are maintained; the membranes, the cellular tissue, the blood-vessels, and the nerves, have each in turn been charged with this office; but none of these modes of explanation are free from objection. The most plausible hypothesis is, that the nervous system is the seat of sympathies; but the difficulty in admitting this supposition arises from the evident proofs of sympathy which exist in vegetables, beings not known to possess nerves, or a nervous system. Dutrochet, indeed, asserts that the small points, or spots, observed on the cells and vessels of

plants (figs. 16 and 17), are analogous to the nervous globules of animals; he calls them *nervous corpuscules*, and regards them as the scattered elements of a diffused nervous system. That globules are found in vegetables in the situation described by Dutrochet no one can deny; but the grounds on

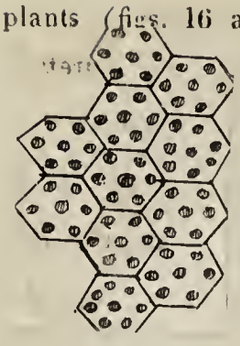
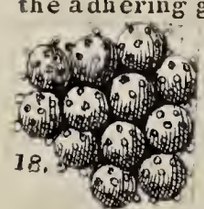


Fig. 16.—Section of the medulla of the *Mimosa pudica*, showing the globular bodies adhering to the sides of the cells.

which he asserts they are nervous are slender indeed. The researches of Leeuwenhoek, Prochaska, Fontana, Sir Everard Home, Bauer, the brothers Wenzel, and Dr. Milne Edwards, have shown that the nervous system of animals is composed essentially of agglomerated globular corpuscules. Here is a drawing (fig. 18) representing the globular cells of the bulpy matter forming the brain of *Limax rufus* (red slung) and of *Helix pomatia* (the great or vineyard snail), molluscous animals of the class *Gasteropoda*. Observe the corpuscules on the sides of the cells. Here, says Dutrochet, is a structure evidently similar to the medullary tissue of vegetables; and the analogy extends beyond the mere physical characters, for we find the two structures agree in their

Fig. 17. Spiral vessel found in the stems of *Salanum tuberosum* and *Cucurbita pepo*, with the adhering globules.



chemical properties: the globular corpuscules both of animals and vegetables are rendered opaque by boiling in nitric acid, while a solution of potash restores their transparency. These corpuscules, then, are regarded, by the before-mentioned celebrated physiologist, as the organs producing the nervous power.

In the lower classes of animals which have no nerves—namely, the zoophytes—we meet

with a kind of diffused nervous system. Here is a magnified representation of one of the arms of a *Hydra* (fig 19), showing the distribution of the nervous corpuscules. In this animal, the *Vorticella convularia* (fig. 20), these corpuscules are much less numerous, but are still observed; they occupy the central part of the branches.

On these grounds, then, Dutrochet assumes that the little globules sticking to the cells and vessels of plants, and which are nothing but particles of amylaceous or resinous matter, are to be regarded as the scattered elements of a diffused nervous system. Two facts seem to disprove his hypothesis: first, plants that do not offer the least trace of animal sensibility have globules in as great abundance as those vegetables (*Mimosa pudica*, for example) that really appear to possess it; and secondly, those plants which offer the strongest symptoms of sensation are not those that approch the

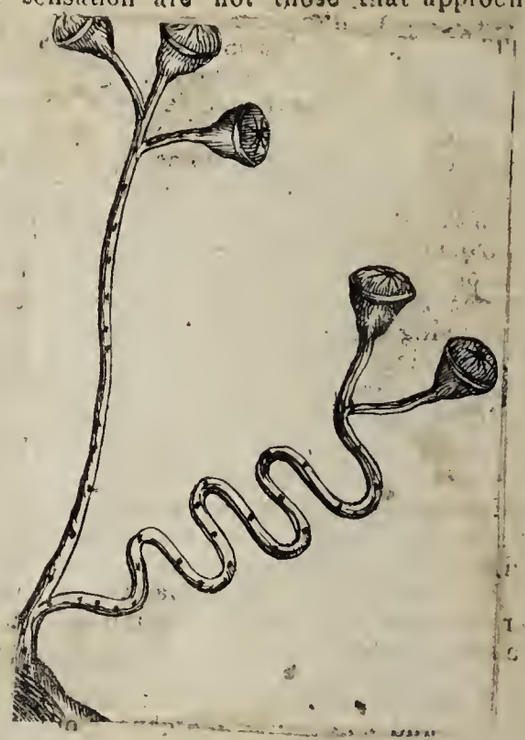


Fig. 20.

nearest to zoophytes in structure. I think, then, we may say with Bichat that the capses of sympatheis are completely unhnown: a dark veil still conceals from us the agents of communication which connect the organs from whence the sympathetic influence is conveyed, to the part which recieves it.

Four circumstances lead us to infer that particular substances produce certain remote effects on the system, independently of absorption; these are as follows:—

1. The instantaneous operation of some medicines.
2. The remote effects not being in proportion to the absorbing power of the part.
3. Dilution diminishing the remote action.
4. Mechanical injury affecting remote organs.

1. Observe the instantaneous effect of strong hydrocyanic acid. I apply the nose of a rabbit to the mouth of a receiver, filled with the vapour of this acid, and you see the animal is instantly killed. In this and other cases the operation is, I think, too quick to admit of the supposition that absorption was the cause of the phenomenon. Sir Benjamin Brodie has remarked, that he once happened to touch his tongue with the end of a glass rod, which had been dipped in the essential oil of bitter almonds; and he says that he had scarcely done so, before he felt an uneasy indescribable sensation in the pit of the stomach, great feebleness of limbs, and loss of power to direct the muscles, so that he could hardly keep himself from falling.

2. Orfila found that alcohol acted with much less energy when injected into the cellular texture than when taken into the stomach; and as the power of absorption is greater in the former than in the latter part, he concludes that the remote action of alcohol must be produced by the agency of the nerves. Opium

on the contrary, is supposed to operate by absorption, because it is more active when injected into the cellular texture of the thigh than when taken into the stomach.

3. The effect of dilution on the action of medicinal and poisonous agents oftentimes assists us in determining the mode by which the remote effects take place. Thus if we apply a strong mineral acid to the stomach, great disorder of the general system is produced; but if we dilute the acid previous to its exhibition, little disturbance in the system is observed. Now as dilution facilitates absorption, it is improbable that the constitutional disorder cause by swallowing strong mineral acids depends on their absorption. On the other hand, Dr. Christison has shown that oxalic acid, considerably diluted, quickly enters the blood, and causes speedy death; hence it is presumed to kill in consequence of absorption.

4. Mechanical injuries sometimes give rise to effects on remote parts similar to those caused by the action of certain medicines or persons. Laceration of the stomach produces similar constitutional disorder to that occasioned by the strong acids.

The action of medicines by what authors call *continuity* and *contiguity* of organs is only an example of sympathetic operation. By irritating the mouth of the excretory duct of a gland we promote excretion; and by applying clysters of suppositories to the rectum, we excite secretion and contraction in the intestinal tube above the rectum: these are examples of the action of medicines by *continuity* of organs. When we give aloes, hellebore, or savinge (substances which irritate strongly the lower portion of the large intestines) to affect the uterus, or when we employ demulcents to lubricate the pharynx and œsophagus, and thereby to alleviate cough, we are acting on the principle of *contiguous* sympathy.

PECULIAR EFFECTS OF MEDICINES.

Having now discussed the question as to how the remote parts of the system become affected, I proceed to examine the *locality* and *quality* of the effects of medicines; and

First, of the *locality* of the operation. Most medicines have some one or more organs on which they exert their especial influence; and in consequence of the mechanical, functional, and sympathetic relation which this organ has with the other organs of the body, the whole system becomes, in a secondary way, more or less disordered. These are the *Specifica topica* of Hufeland. Dr. Christison has justly remarked, that there are few substances which affect primarily and simultaneously many parts of the body: arsenic and mercury, however, do appear to have this effect. The following are instances of parts specifically affected by medicines: —

1. The brain, by the substances commonly called narcotics and inebrients.
2. The spinal marrow, by the substances containing strychnia and brucia, to which we may probably add mercury and lead.
3. The circulatory organs, by stimulants, tobacco, arsenic, digitalis, &c.
4. The lungs, by tartar emetic, emetia, corrosive sublimate, &c.
5. The alimentary tube, by some emetics and purgatives.
6. The urinary apparatus, by diuretics, cantharides, &c.
7. The skin, by some diaphoretics.
8. The salivary glands, by mercury, and also sometimes by hydrocyanic and nitric acids, opium, arsenic, fox-glove, &c.
9. The mucous surfaces, by mercury, turpentine, balsam of copaiba.
10. The lymphatic system, perhaps by mercury and iodine.
11. The organs of reproduction, by ergot of rye, cantharides, phosphorus (?), and some of the substances denominated emmenagogues.
12. The liver, probably by mercury.
13. The throat, by belladonna.

This list might be much extended, but it is difficult to satisfy one's mind in many cases; and, indeed, in this list I have inserted several substances whose operation on the parts mentioned, though generally believed, has been less satisfactorily proved. Many remedies disorder several of the functions of the body, but it is sometimes not easy to determine which was the first effected.

Secondly of the quality or nature of the effects produced by medicines.—Theoretically we can easily conceive that the functions of the system may be influenced in two ways—namely, *quantitatively*, or in respect to the *degree* of their action; and *qualitatively*, or in referrence to the *nature* of the action induced. It is, however, difficult to select pure and unequivocal instances of either mode of operation solely, since most medicines give rise to simultaneous quantitative and qualitative changes.

Dr. John Brown, the ingenious author of the *Elimenta Medicinæ*, assumes that all medicines are stimulants, differing only in the degree of their operation. His views may be thus explained: all living beings possess a peculiar principle, termed *excitability*, and which distinguishes them from inanimate bodies. Certain agents, called by him *exciting powers*, act on the *excitability*, and thus maintain life, or, in the language of Brunonism, produce *excitement*. Whatever can modify, the excitability, and produce a greater or less degree of excitement, are termed *stimulant powers*. Hence, therefore, medicines, like other external agents, are stimulants; some of them causing excitement of the whole system others of a part of it.

The author of this doctrine also assumes that medicines differ from each other in little more than the degree in which they exert their stimulant power;—so that digitalis, hydrocyanic acid, cinchona, mercury, opium, alcohol, cold, and even bloodletting, are all stimulants, differing only in degree. But what right have we to assume all medicines or other agents, stimulants? Where is the evidencce of this stimulant effect when we apply strong hydrocyanic acid to the tongue of an animal, and thereby produce instantaneous death? It is not absurd to suppose that alcohol, mercury, cinchona, and opium, differ in the *degree* of their operation only? The apparent effects produced are so dissimilar, that we are compelled to suppose a difference in the *nature* or quality of their operation.

These difficulties in the way of the Brunonian doctrine led some physicians of Italy to modify it; and thus arose the *theory of contra-stimulus* of Rasori, Borda, and Tommosini. Some medicines, say these writers, stimulate, others have a contrary power: the first they call stimulants, the second contra-stimulants. Is this term contra stimulant synonymous with sedative? Certainly not; for sedatives, properly so called, are those substances which produce a depressing action upon the system in a state of health. Now a contra-stimulant is a substance which merely counteracts a state of excitement, and the term, therefore, becomes applicable to many bodies whose action is unequivocally stimulant. Perhaps our word antiphlogistic is most analogous in its meaning to that of contra-stimulant; but by the Italian physicians would not be regarded as synonymous, for according to their notions contra-stimulants diminish excitement, by depressing the excitability of the fibre by a kind of specific property, which no one thinks of assigning to our antiphologistics. The difference between the two, however, is after all only theoretical. The test of the contra stimulant power of medicines is their oviating or counteracting the effects of some well-known and well-characterised stimulant. Thus alcohol is put down as a stimulant, and hence any agent which relieves the inebriation produced by it, is denominated a contra-stimulant. Proceeding in this way, then, we may form the following classification:

Stimulants.	*Contra-stimulants.*
Caloric.	Cold.
Opium.	Bloodletting.
Musk.	Metallic medicines.
Camphor.	Emollients.
Phosphorus.	Tonics.
Æther.	Ipecacuanha.
Ammonia.	Purgatives.
Wine.	Hydrocyanic acid.
Alcohol.	Digitalis, belladonna, stramonium, &c.
Carbonic acid.	Nux vomica.
The electric fluid.	Valerian.
Aromatics.	Coffee.
Cinchona (by some this is regarded as contra-stimulant.)	Mustard and pepper.
	Cantharides.
	Turpentine.
Red particles of the blood.	Squills.
	Nitre.
Animal food.	Acids and oxygen.

A slight view of this table will convince you that many of the substances put down as contra-stimulant are, unequivocally, stimulant; for example, cantharides, turpentine, &c. In fact, the founders of this doctrine have assembled under the same head, bodies of the most opposite effects; and have separated others, whose general operation is very analogous. They appear to me to have totally disregarded the physiological or immediate, and to have directed their whole attention to the therapeutical or secondary effects, which, as I shall hereafter have to show, are accidental and uncertain. They assume the existence of certian diseases, which are called *sthenic*, because they are produced by too much stimulus, and suppose the existence of *contra-stimulants*, because certain agents sometimes relieve this state. In other words, these physicians judge of the nature of a disease by the effect of the curative means, and of the virtues of medicines by the nature of diseases. So that if a disease now supposed to be *sthenic* should hereafter prove to be *asthenic* (that is, produced by too little stimulus), the medicines used would then immediately pass from the class of contra-stimulants to that of stimulants!

The hypothetical notions of the Italian physicians have, however, led to some practical advantages in the treatment of diseases, and taught us that the system will often times bear much larger quantities of medicines than had been supposed. According to their views the doses ought to be proportioned to the degree of excitement; for when inflammatory action runs high, the patient will bear very large doses of contra-stimulants without any obvious evacuation from the skin, stomach, or bowels, and the disease will be subdued wholly by the contra-stimulant effect upon the fibres, and other solids of the body. This capability of bearing increased doses has been called *tolerance* of medicines, and has led to their exhibition in much larger quantities, and at shorter intervals, than had previously been practised, and which in several cases, (especially that of tartar emetic in peripneeumonia) has been attended with great success. Thus, instead of giving one-eighth of a grain to three grains of this antimonial salt, they have administered it to the extent of a scruple.

I now proceed to offer a few remarks *on the circumstances which modify the effects of medicines;* a subject which is of considerable importance, and which would become of great practical use, were we better acquainted with it. Frequently, however, the causes of the modifications observed are enveloped in the deepest obscurity; and in other cases, though we may by experience refer certain results to particular causes, yet we cannot in the least explain the mode of agency of the latter. The following are some of the leading circumstances that influence the operation of medicines:—

1st. *Variations in the doses of medicines* are sometimes attended with variations in the effects produced. Thus, in small repeated doses, oil of turpentine acts as a stimulant or excitant to the general system, and in a large dose, as a purgative.

2nd. *Variations in the mechanical and chemical properties of medicines* also modify their effects. Thus, sulphuric acid in its concentrated form acts as a caustic, but not so when largely diluted. Morphia is more active in solution than in substance.

3rd. *Habit.*—Experience has proved that by repetition metallic substances seldom lose, but, on the contrary, seem rather to gain an increase of power by repetition. Habit or custom will not, I believe enable a person to increase to any great extent the dose of arsenic or of mercurials; yet the very reverse of this is found to hold good with respect to many medicines obtained from the organic kingdom, especially narcotic and inebriating substances; of the diminished effects of which we observe good examples in opium-eaters

and drunkards. Habit enables the Turk to swallow two drachms of solid opium at a dose; the *bon vivant* to take his two or three bottles of wine at a sitting; and the sailor to chew large quantities of tobacco, which in the unaccustomed would be attended with powerful effects. Dr. Chapman tells us that he knew a wine glass-ful of laudanum to be given several times in the twenty-four hours. "But what is still more extraordinary," says this author, "in a case of cancer of the uterus which was under the care of two highly respectable physicians (Drs. Monges and La Roche) of Philadelphia, the quantity of laudanum was gradually increased to three pints, besides a considerable quantity of solid opium in the same period." Pinel mentions a lady who required 120 grains of opium to give her ease in cancer of the uterus.

In what way are we to explain these phenomena? Some think that the effect of habit is only an increased power of decomposition, on the same principle that, by repetition, the stomach often acquires an increased facility in digesting substances which had at first resisted its assimilative powers. If this explanation were correct, we ought to observe the effect of habit principally when substances are swallowed, and little, or not at all, when they are applied to a wound, to the cutis vera or other parts not possessing a digestive or decomposing power;—and the common dose of opium ought to have the usual effect, when applied to any part to the body of an opium-eater, except the alimentary tube. I am not prepared to say positively whether this would or would not take place, but I suspect the result of the experiment would be a disproval of the hypothesis. The ultimate facts, then, to which we can reduce our inquiries as to the effect of habit, appears to be this, that by repetition, the body (or certain parts of it) bocomes less susceptible to the influence of certain organic agents.

We must not pass over a curious fact some times observed by the repeated use of certain substances, namely, that effects are obtained different in their nature from those caused by only one or two applications. For example no one could by observation of the effect of one or even two doses of opium have anticipated that great emaciation, debility, and even premature old age, could be brought on by the long-continued use of large doses of this substance. 4th. *Climate.*—The climate has an important influence over the functions and even physical characters of the body, every one will admit; and we presume that the same agent may influence the action of medicines, by rendering the system more or less susceptible of their influence. It is, however, difficult to select pure and unequivocal instances of this. Calomel has been given in much larger quantities in India than it is customary to exhibit it in Europe, and as the effect was not proportioned to the dose, it has been presumed that the climate of India diminishes the susceptibility of the system to the influence of this agent; an inference, however, which, although it may be true, can hardly be said to have been proved.

5th. *Diseased conditions of the body.*—Diseases of various kinds sometimes have a remarkable influence in modifying the effects of medicines; and hence it is of considerable importance in practice to be acquainted with these facts. One of the most striking instances is that of the diminished influence of opium in tetanus. A scruple of this substance has been given at one dose, and repeated every two or three hours for several days, without any remarkable effects being produced. To what cause we are to attribute this I know not. The late Mr. Abernethy mentions in his lectures, a patient who had tetanus from a wound which he received at the time of the riots in the year 1780, to whom a scruple of opium was given every day, besides a dose of a drachm at night: when his body was opened, 30 drachms of opium were found undissolved in his stomach. You might perhaps infer from this case that the diminished effect arose from the want of solution of the medicine; and that this was Mr. Abernethy's opinion seems presumable from his advice as to the mode of using it in this disease. "Give it," says he, "repeatedly in small doses so that it may liquefy." However, that it was not the want of liquefaction or solution seems proved from the fact that laudanum is also less effective in tetanus than in health.

Begin, in his *Traite de Therapeutique*, relates that M. Blaise, in a case of tetanus, administered in ten days, four pounds, seven ounces, and six drachms of laudanum, and six ounces, four drachms, and forty-five grains of solid opium! Begin endeavours to explain these facts by assuming that the stomach acquires an increase of assimilating power, so that it is capable of digesting these enormous quantities of opium, in consequence of which their usual narcotic effects do not take place. He supports this hyphothesis by stating, that if, during tetanus, opium be injected into the veins in much smaller quantities, it produces its usual effects. If, however, this latter assertion be correct, it dose not at all warrant Begin's assumption; and bearing in mind that opium administered by clysters during tetanus is less powerful than usual, and also taking into consideration the case related by Mr. Abernethy, I think wehave evidence sufficient to warrant our non-admission of this hypothesis. All, therefore, apparently that can be said in the way of explanation is, that in tetanus, the nervous system has undergone some change by which its susceptibility to the influence of opium is considerably diminished.

Another example of the influence of disease in modifying the effects of medicines is seen in the diminished power of mercury during fever. I have repeatedly seen large quantities of mercurials exhibited internally, and in some cases accompanied with mercurial frictions, without exciting salivation; and in general such cases terminated fatally. I never saw a case of fever in which salivation was established (and I have seen several) that died; but whether the recovery was the consequence of the mercurial action, or the salivation of the recovery, I will not pretend

to say, though I must confess I have formed a favourable opinion of the efficacy of mercury is some forms of fever, especially those complicated with local congestion or inflammation.

6th. *Mental influence.*—The effects of medicinal agents on the body are very much influenced by the state of mind. Hufeland tells us that he knew a lady who, having conceived a violent aversion to clysters, was thrown into convulsions by the injection of a mixture of oil and milk. I have several times seen the most violent effects attributed to bread pills, which pills the patients had been previously told exercised a powerful influence over the system.

7th. *Age.*—Living beings are incessantly undergoing changes; so that at different epochs of their existence their organization and actions are somewhat different. Thus they increase, develope themselves, arrive at maturity, and lastly decrease. We may conveniently admit four ages of man,—infancy, youth, the adult age, and old age,—each of which is marked by particular states of the functions, by a tendency to certain diseases, and by a different susceptibility to the influence of medicines. As a general rule, infants require much smaller doses than youth, and the latter than adults. This is particularly remarkable in narcotics, which require to be exhibited with the greatest caution to infants: while the more active metallic preparations, as the salts of lead, nitrate of silver, arsenic, &c. ought perhaps never to be given to them. However, infants appear to be less (or certainly not more) susceptible to the influence of calomel than adults; constituting here a remarkable exception to the general rule.

Attempts have been made to lay down a general rule for determining the doses of medicines for children, but none is applicable in all cases. Dr. Young says, that for children under twelve years of age, the doses of most medicines must be diminished in the proportion of the age to the age increased by twelve. Thus, at twenty-one, the full dose may be given, but at two years only $\frac{1}{7}$

$$\frac{2}{2+12} = \frac{1}{7}$$

Hufeland gives the following scheme;—At the end of the first year suppose the dose to be 1; then at the fifth it will be 2: at the fifteen 3; and at the twenty-fifth 4. Suppose the dose for an adult to be 40 grains, for other ages it will vary thus—

Years.	25	20	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Doses.	40	35	30	29	28	27	26	25	24	23	22	21	20	18	16	13	10

Months.	11	10	9	8	7	6	5	4	3	2	1	$\frac{1}{2}$
Doses.	9		8		7		6		5	4	2	1

8th. *Sex* has also an influence on the operation of medicines, females being much more susceptible than males.

9th. The *nature of the part* to which the medicine is applied has an important influence over the effect produced. The stomach, for example, is much more susceptible than the skin Opium acts more powerfully on the serious than on the mucous tissues. Carbonic acid acts as a positive poison when taken into the lungs, but as a grateful stimulant when applied to the stomach.

10th. *Individual peculiarities.*—Under this head we may examine three kinds of peculiarities, 1st, those that affect whole nations or communities, and which constitute the differences between the human races: if I might be allowed to coin a new term, I would call these *racic peculiarities*; 2ndly, those peculiarities called the *temperaments*, which affect certain individuals without reference to the races, and which consist in disproportions in the development or activity of certain organs by which the whole animal economy is influenced; 3rdly, *Idiosyncracies*, or those peculiarities which affect the functions only of organ, and which are not common to a number of individuals.

In the first place let us notice the influence of *peculiarities of race or of nations.* It is not necessary for me to enter into an examination of the peculiarities (structural and functional) of the human races or of individual nations. It is quite sufficient for me that such do exist, and are obvious to the most careless observer. *A priori* there would be little difficulty in admitting that these may be accompanied with modifications of the susceptibility to the influence of exterior agents, such as medicines. As, however, we meet with differences of customs, manners, diet, climate, &c. among different races, or even nations of the same race, so it is difficult to determine what we ought to refer to the influence of these, and what to the peculiarities in organization. Hence, we are not in a condition to offer pure and unequivocal instances of the peculiarities of race affecting the operation of medicines.

Differences of *temperament* are said to affect the influence of medicinal effects. But what is temperament? This term is derived from the Latin verb *tempero*, to mix at the fifteenth 3; and at the twenty-fifth 4. Suppose the dose for an adult to be 40 grains, for other ages it will vary thus—together, or to temper, and is applied to certain conditions of the body formerly supposed to arise from variations in the proportions of the fluids of the body Thus, when the fluids were in proper relative proportions, they were said to temper each other, and by so doing produce a perfect temperament. When the yellow bile was supposed to be in excess it produced the choleric or bilious temperament; when black bile, the atrabilious or melancholic; when blood, the sanguineous; and lastly, when pituita or phlegm, the pituitous or phlegmatic. Although in modern times physiologists do not admit this theory of the ancients respecting temperaments, yet we cannot help acknowledging that certain individuals offer physical and functional peculiarities of the kind described by the ancients under the above men-

lioned heads: and thus the existence of temperaments has been generally admitted, while the theory or explanation of them has varied with the prevailing medical doctrines of the day.

The number of temperaments has not been agreed on; Hippocrates admitted four, Boerhaave eight, others five. Under five heads I think we may include the leading varieties, which will then stand as follows:—

1st. The *nervous* temperament, character izied by great susceptibility of the nervous system, and comparative little muscular power.

2d. The *sanguine* temperament, known by great development of the vascular system. The functions are performed with considerable activity, but the strength is soon exhausted.

3d. The *muscular* temperament is characterised by great development of the locomotive organs (bones and muscles); but accompanied by diminished nervous energy.

4th. The *relaxed* temperament, marked by deficiency of power and imperfect performance of all the functions, with a soft and blabby condition of the solids.

5th. The most *perfect* temperament is that in which all the organs and functions are properly balanced, and in which we have the greatest strength.

Each of these temperaments varies in regard to its susceptibility to the influence of medicinal agents. In the sanguine temperament stimulants must be employed very cautiously: in the nervous and relaxed temperaments, evacuants can only be used with great attention and care.

The effect of *idiosyncracy* (a term derived from *ἴδιος proper*, *σὺν with*, and *κρᾶσις misture*) in modifying the effects of medicines and poisons is in general to increase their activity, thus, some individuals are peculiarly susceptible of the action of opium, some of mercury, and others of alcohol. The odour of ipecacuanha will in certain persons produce short and difficult respiration, approaching almost to a paroxysm of asthma. The late Mr. Haden has related a case in which two drachms and a half of tincture of colchicum produced death: the mother of the patient was also exceedingly susceptible of the action of colchicum even in very small doses. There are, however, instances in which the effect of idiosyncracy is to diminish the activity of medicines; some persons, for example, are exceedingly insusceptible of the action of mercury.

A TREATISE ON HEADACHES, THEIR VARIOUS CAUSES, PREVENTION, AND CURE. BY GEORGE HUME WEATHERHEAD, M. D. &c. &c.

After the laborious and erudite volume of the late Dr. Vaughan, of Rochester, on the subject of headaches, we did not expect to find much novel matter in this small duodecimo of Dr. Weatherhead's, though we were quite aware of the talent for observation possessed by the author. We were agreeably disappointed—and the cause may, very probably, be ascribed to the circumstance of the author being himself a sufferer from the complaint. None can describe a disease so well as he who has felt it, *cæteris paribus*. Hence we have had some excellent monographs from the pens of physicians, who delineated from their own sufferings.

Dr. W. has prefixed to the more practical part of his subject, a very well-written chapter on the physiology of the brain. On this we need not dwell. But we are tempted to make an extract from this chapter, respecting the difference between reason and instinct—and the cause of that difference.

"All former physiologists and psychologists have failed in their attempts to bring the instinctive faculties under those proper to the brain. The wonderful works of bees and spiders would suppose a degree of intelligence greater than even the higher and more docile classes of the vertebrated animals ever attain to, superior even to what man, as an isolated being, could evince, were he to try to execute any thing so geometrically perfect.

Thus naturally led to the reflection, let us now observe the contradiction which such a train of ideas involves. It is an accorded fact that the insect tribe are infinitely below the humblest of the vertebrated animals in relation to the size of the brain; and yet, if their instincts are acts of this organ, how comes it that many of them should be so superior in this respect to most of the vertebrated amimals? Comparative anatomy solves the question—they are acts which the brain does not execute. From the foregoing observations, therefore, we are enabled to infer, that man ranks in the lowest grade as an instinctive being, because he is the most inferior of all relatively to the proportional volume of the fifth pair of nerve compared with the brain. The bee, again, may be placed at the head of the invertebrated animals for its instinctive faculties, because its cranial ganglions are the most developed.

If it were necessary to adduce proof of the exceeding value of physiological knowledge, in elucidating what hitherto has afforded to the materialist and sceptic a tenable position for argumentation, founded on the mental manifestations of the brute creation, and what has no less evaded the researches and speculations of the profoundest metaphysicians satisfactorily to explain.—no more cogent or conclusive example could be given, than the manner in which the investigations of comparative anatomy have demonstrated the difference of the organs of instinct and of mind." 18.

Headach is, of course, only a symptom of some disease, and, consequently, is always symptomatic—never idiopathic. The following is the order in which our author proposes to treat of this class of complaints.

"I. DYSPEPTIC, or SICK HEADACH.
II. NERVOUS HEADACH.
III. HEADACH FROM FULNESS OF BLOOD IN THE HEAD; originating from
VENOUS PLETHORA.
ARTERIAL PLETHORA.
IV. RHEUMATIC HEADACH.
V. ARTHRITIC HEADACH.
VI. HEADACH FROM ORGANIC LESION OF THE BRAIN." 20.

The first variety is not the most common form, though it is generally considered so both by patient and practitioner. The doctrines of Abernethy and Philip have led people to refer almost every complaint of the body to disorder of the digestive organs. There can be no doubt that these organs are very frequently affected, either primarily or secondarily, in a great number of maladies; but, as a certain personage is not so black as he is painted, so the stomach and liver are often blamed, when they are more sinned against than sinning.

The dyspeptic or sick headache, however, is described with great truth and clearness by Dr. Weatherhead—more faithfully, indeed, than by any author that we are acquainted with.

"It is usually ushered in by a sensation of chilliness passing over the frame, and a feeling of fatigue and lassitude pervading the whole muscular system. While the feet are cold, the countenance is often flushed and tumid, and the forehead burning hot. A pain, varying in character, is felt most usually over the forehead, or in one or other of the temples. At times, this pain is dull and heavy, attended with much heat, and a sense of weight and fulness, as if the blood-vessels were over-gorged, which, indeed, is the fact; the temporal arteries beat with violence, imparting a throbbing character to the pain, aggravating it by each pulsation, while all the veins about the head (most observable on the forehead) are swollen and distended. There is a total prostration of appetite, and sickness is felt at stomach; the pulse is quickened, often full; the tongue coated with a brown fur; an acrid sensation is felt in the back part of the throat, particularly after eructations; the mouth is clammy; the saliva viscid; the breath offensive; the skin is dry and parched; the urine is usually limpid and abundant; the palms of the hands are burning hot; and in many cases the feet are icy cold.

During the continuance of the pain, the patient is incapable of applying his attention to any thing; his thoughts are distracted and confused, and his recollection greatly impaired. Indeed, the common effect of habitual head aches is to insure the energy of the intellect, and especially the memory.

The pain, if seated in the temple, will not unfrequently shift into the eye-ball of the same-side, or it will fix itself over the inner corner of the eye-brow, affecting, in fact, the supra-orbitar branch of the fifth pair of nerves, as it emerges from the orbit to spread its ramifications on the brow. This particular kind of headach is, by the general consent of medical writers attributed to gastro-intestinal irritation, proceeding from acrid acidity in the stomach and duodenum; and no headach is more excruciating, the sufferer seeks quietude and silence being distracted by company;—the least noise aggravates the pain, and light is painful and oppressive to the eyes, contracting the pupil*

With the above symptoms there is usually conjoined much sickness at stomach, which is sure to be increased by erect posture, or by moving about. At length retching comes on, and speedily terminates in vomiting, attended with violent straining. The matter usually first ejected consists of the contents of the stomach in an undigested, or corruptly digested state, mixed, for the most part, with much acrid acidity; sometimes, indeed, the matter brought up consists of nothing else; but if the retching and straining continue, bile is at length ejected—a result not always to be attributed to any undue quantity in the secretion itself, but rather to the pressure which is made by the muscles, in the action of vomiting, on the gall-bladder, emptying it of its contents, and forcing it into the stomach. We thus see that the familiar appellation of bilious, as applied to headach is often used incorrectly, the presence of bile being entirely incidental; in many instances, the *effect* of severe straining, and not the *cause* of the headach." 23.

The stomach being freed from its contents, and all the emunctories having been opened, the pain usually abates—sleep often succeeds—and the patient generally awakes free from headach.

Dr. W. thinks that these headachs are sometimes occasioned by atmospheric influence, since they occur where there has been no "irregularity or imprudence over-night." But we can assure Dr. W. that irregularities in diet are by no means necessary to induce indigestion. Passions of the mind will disorder the stomach far more effectually than wrong food—hence the great number of dyspeptics who observe the most exact regimen. We are rather surprised that Dr. W. has excluded, or at least omitted, moral causes of sick headach from his etiological catalogue. The common or material causes he has correctly enumerated, and we need not repeat them. The treatment he defers, till the second variety—the nervous headache, is under consideration. The temperament which disposes to this species, both in males and females, is indicated by variable spirits—fickleness of temper—and excessive susceptibility to all impressions, moral and physical.

"The mind and body reciprocally act upon each other in all constitutions, but they are more especially sympathetic in the nervous; and as physical agents, acting through the corporeal sensibility affect the mind, so mental emotions and impressions no less powerfully operate upon the nervous system." 29.

Atmospheric influence, Dr. W. thinks, is one great physical cause of this kind of headach.

"It not unfrequently happens that a nervous headach, which has continued severe through the day, goes off in the evening. This is sometimes attributable to a change in the state of the atmosphere itself; but is perhaps, frequently better accounted for by ascribing it to that *periodical augmentation which takes place in the energy of the brain and nervous system generally, recurring every evening.* It is this diurnal revolution which relieves the symptoms, for a time, of all adynamic diseases, and

* "Meckel explains this last symptom by the conjunction of the first brauch of the fifth and the third nerve with the ophthalmic ganglion, from which the ciliarly nerves proceed."

which so regularly aggravates those of an opposite character; imparting an excitemen which dissipates, while it lasts, the gloomy visions of the hypochondriacal, and which produces the vesper exacerbations and delirium in fevers." 35.

We confess that the foregoing explanation appears to us very questionable—and we have no doubt that it will give foundation to a long "critical disquisition," in the new aspirant for critical fame about to appear above the horizon. For our own parts, we shall merely enter our dissent against the doctrine of *augmentation of energy in the brain towards evening*. We suspect that it is just the reverse—and that if Dr. W. tries the experiment, he will find his own brain more energetic in the morning, after a good night's rest, than in the evening, when the whole corporeal and mental powers stand in need of recruit. We are aware, indeed, that many people invert the order of nature, and, by siting up till 2 or 3 o'clock in the morning, under the influence of artificial excitement, they induce langour and low spirits all the forenoon of the next day—not rallying till after dinner and tea in the evening. But this is violence done to nature, and, indeed, it is the usual course which ultimately leads to nervous and hypochondriacal complaints.

The various forms of hysterical headach come under this class—the most remarkable of which is the clavus hystericus.

"A tendency to headach not unmmonly originates in some latent source of irritation, which, by the sympathy of the nerves, is transmitted to the head. One of the most usual seats of this irritation is the alimentary canal; and there are three principal sources of it: *firstly*, acrid secretions working on the sensibility of the inner membrane of the intestines; *secondly*, accumulation of indurated faces from habitual constipation; and *lastly*, worms. The last is more especially to be suspected as the cause of headach when it happens and frequently recurs in children. Worms act on the head in a manner analogous to acrid sordes in the first passages, that is, by sympathetic irritation; and when the worm is a tænia, the disease is often accompanied with convulsions. Hoffman (tom. iii. P. 42) gives a case of this kind where the patient suffered for four years from this cause, without its true nature having been suspected; and I have in my own practice met with more than one case of a similar character. But, taken generally, habitual constipation is by far the most common cause. Hence headach from a sluggish state of the bowels is the prevailing disorder of the sedentary, and is very justly noted as a 'desk disease.' A morbid degree of sensibility of the whole frame, rendering it susceptible of slight impressions; sometimes owes its origin a source often little suspected for a length of time—I mean the urethra. Stricture of some part of this canal I have frequently traced as the latent cause of great constitutional disturbance, of much morbid susceptibility, and as an indirect cause of habitual headach." 37.

Our author notices a nervous headach, resulting from debility or exhaustion. It is accompanied by vertigo, and a sense of falling down, together with great sensibility to the slightest annoyances—the appearance of a veil or network, full of dark moving spots, before the eyes—unsteadiness of thought, fickleness of temper, and despondency. This is a very obstinate form of headach, and most difficult of cure.

The treatment of sick headach and nervous headach Dr. W. divides into two clauses—the paliative and systematic. When arising from crudities in the stomach, they ought to be dislodged, and acidities corrected. Dr. W. has often found quick relief from a wine-glassful of peppermint water, with a little magnesia and rhubarb. But emetics or purgatives give the most effectual relief. Warm water of camomile tea alone will often dislodge the enemy.

For the radical treatment of the biliary headach, Dr. W. recommends a course of blue-pill and colocynth, with saline waters, as those of Cheltenham and Beulah. The quantity of saline ingredients in the waters of Beulah is greater than in those of Cheltenham. As these headaches generally depend on deranged function in one or more of the digestive organs, our attention must be almost entirely directed to that source. Great restriction in diet—confinement, for example, to meat and bread, with weak brandy and water—regular, but mild aperients—with alkaline bitters, will do more to remove these headaches, and improve the general health, than all the remedies in Ryan's conspectus.

Dr. W. makes some judicious remarks on headaches from plethora in the brain, and especially in the veins of the head; but we do not deem it necessary to quote them, with the exception of the following passage.

"Headach from fulness of blood in the veins of brain is apt to occur in men of literary pursuits, and in those whose business confines them to the desk, or to a constant stooping position of the head: these, when conjoined with sedentary habits, and intense application of the mind to some harassing occupation, all concur to derange the equilibrium of the circulation. The first effect is to throw the blood in undue quantity to the head: in time this determination becomes habitual; the brain is exhausted by the intensity and long continuance of the excitement, and the consequence of this exhaustion is congestion in the veins: the healthy tone of the vessels is destroyed; and when this state of engorgement has attained a certain height, some accidental aggravation of it produces rupture of one or more of the vessels, and the patient has an apoplectic or paralitic seizure." 57.

On rheumatic headaches Dr. W. does not much dilate. They are much more numerous than most practitioners apprehend, and are often mistreated. We have found no means so beneficial as the following:

R. Pulv. Ipecac. c.....gr. viij.
Sub. Hyd.....gr. ij.
Ft. Pulv.—Hora sumend.
B. Infusi Rhei ..... ℥ iij.
Tart. Sodæ ..... ℥iij.
Pulv. Rhei..... ..... ℥ss.
Tinct Sennæ..... ℥ ss.
Vini Colchici..... ..... ℥ss.

Misce ft. Mistura, capiat tertiam partem prima mane, et repr. dosis alternas horis donec alvus plena respondeat.

If these does be repeated every second night and morning for two or three times, they will generally remove the disease.

From the 5th section on "ARTHRITIC HEADACH," we make the following extract:—

"Gout affecting the head is one of the most dangerous forms of the disease, and shews itself either as arthritic headach, or as arthrtic apoplexy; indeed, the one is the usual precursor of the other. The first is a disease that often escapes detection, especially if the patient has never had a paroxysm of the gout in its regular form: the symptoms are imputed to a common determination of blood to the brain, and treated accordingly; but this is a mistake of a serious nature. since, in the treatment of gout affecting the organ, all depletory measures are hurtful. Hence it is a disease frequently requiring both considerable discrimination and close observation to detect, as it is only by apparently trivial distinctions that we are enabled to determine its true nature. This form of the disease affects, for the most part, only those in whom gout does not make a demonstration in the open and regular way. It is most frequently to be met with among the higher classes of the community, where this heir-loom of luxury can frequently claim lineal descent on the part of both parents; and it is likewise found in this disguised form prevailing more among the females of a gouty family than the males, and shews itself particularly after a certain period of life. The most pathognomonic of the symptoms characterising arthritic headach are, a constant sense of fulness in the head, liable to change, from casual circumstances, into severe pain; much giddiness, and a feeling of movement within the head, which keeps continually attracting attention to the sensation, rendering thought confused, and memory forgetful; and that at the same time there is often a feeling experienced by the patient as if he were to become insensible: when he stoops, he is apt to be seized with temporary blindness; his hearing is inordinately acute, he is distracted by the least noise, and he is frequently troubled with a constant buzzing in his ears; flushing and heat pass at times over the head and face, the capillitium is often tender to the touch, and the head feels constantly hot and uncomfortable; digestion is often much disordered, the bowels slow, and the evacuations discoloured; the urine is usually scanty, high-coloured, depositing a reddish sediment; and yet, in the midst of so much disordered feeling and function, the pulse, for the most part, remains undisturbed.

The above are the symptoms most characterestic of this specific form of headach, and which, if not removed, are sure to terminate in arthritic apoplexy." 87.

One more extract, and we take leave of this little volume.

"As the most efficacious palliative in any extraordinary urgency of symptoms, we are to have recourse to colchicum, taking care to direct its operation gentle on the bowels, by the addition of some sulphate of magnesia, the circulation ought likewise to be solicited to the feet by means of a pediluvium, made stimulant by a table-spoonful or two of mustard flour; and a gentle diaphoresis brought out on the surface by James's powder taken in white wine whey, or some other mild sudorific. But there is an effect produced by colchicum, besides its anodyne operation, that involves certain pathological questions respecting the real nature of gout, which have not been hitherto satisfactorily elucidated.—I allude to the effect which colchicum has of augmenting *the quantity of uric acid in the urine*. There are various circumstances which prove that this acid or its base, urea, superabounds in the blood of gouty people; the result, as I conceive, of a morbid condition of the function of sanguification, or rather perhaps, of the immediate process of chylification. Now, Chelius of Heidelberg has accertained that the quantity of uric acid excreted by the kidney is nearly doubled in twceve days under the use of colchicum.

Another curious circumstance which presents itself in the consideration of this subject, is that *tofi*, or gouty chalk-stones, as they are more commonly called, do not consist, as was once imagined, of phosphate of lime, but of *urate* of lime. I may further notice, that in the decline of every fit of the gout, *uric acid* is always observed to abound in the urine of the patient; and in conclusion I may remark, that the use of alkalis and other antacids has an evident influence in diminishing the formation of urea; while they are found, at the same time, to be among the best preventives of gout. Now, the probable inference from all the foregoing facts is that gout is in reality occasioned by the superabundance of urea in the blood, generated in the intestines by an unhealthy process of digestion, induced by habits of luxury and indulgence; or it proceeds from the same cause, in consequence of the same morbid habit of the digestive organs of a hereditary nature. May not the phenomena of a fit of the gout, therefore, be considered as arising from this excess of urea; and the deposition of it in the form of chalk-stones, and its excretion by the kidneys, be regarded as modes of the salutary crisis?

The above considerations, if well founded' teach us, that though it may be proper to assist Nature, in her effort to accomplish her purpose during the fit, still, in the systematic treatment of gout, our paramount object ought to be to prevent its accession, by counteracting the cause—excess of urea." 89.

The volume concludes with some brief, but judicious hints, of a hygienic nature. In his remarks on temperance and travelling, we coincide entirely—and it is evident that he speaks from personal experience. We hope Dr. Weatherhead will pursue his investigations, and soon come before the world with the results of his lucubrations.

CREOSOTE.

As this powerful stranger, which has lately made its way into therapeutics, is occasioning considerable curiosity, we shall here introduce an account of its properties, mode of preparation, and medicinal agency, from a recent edition of Dr. Gully's "FORMULARY OF NEW MEDICINES," published by Churchill.

"The name of this new remedy is derived from the Greek κρέας, flesh, and σώζω, to preserve. It was discovered last year by M. Reichenbach de Blansko in the first instance and subsequently in pyroligneous acid, in the different kinds of tar.

In the process which led to the discovery of creosote M. Reichenbach found that his fingers were deprived of their epidermis, and he conjectured, from this vehement action on organic matter, that this substance might be the mummifying principle of pyroligneous acid, and might also serve an important therapeutical purpose in the living body. This explanation has since been realized.

PHYSICAL PROPERTIES OF CREOSOTE.

Creosote is an oily, colourless, transparent liquid, of a penetrating odour, resembling that of smoke, or smoked meat, and of a burning and exceedingly caustic taste. It has a specific gravity of 1,037.

CHEMICAL PROPERTIES.

It boils at 203° Centigrade, and is not congealed by a cold of—27° C., it burns with a strongly fuliginous flame. With water at 20°, it forms two combinations, one a solution of one part in 80, and the other of 10 parts in 100. This aqueous solution does not change turnsol, nor is it neutralized by acids or alkalis. Nitric acid causes red vapours. A small portion of concentrated sulphuric acid turns it red, but a larger quantity blackens it, the acid itself being also decomposed. Acetic acid seems to be its specific solvent, for it holds any quantity of it. All the acids, even the carbonic, separate creosote from its combinations with potass and soda, without otherwise affecting it. It dissolves a great number of salts, some with, and some without heat. Alcohol, ether, carburetted sulphur, and acetic either combine with it in any proportion. It decomposes or dissolves resins, resinous colouring matters, and other similar substances.

Shaken with white of egg, coagulation immediately takes place. Freshmeat, soaked for an hour in a solution of creosote, and then dried, may be exposed to the sun, without fear of putrefaction; in a week it becomes hard, has the smell of smoked meat, and becomes reddish-brown. Fish may be preserved in the same manner. Birds poisoned with creosote, remain nearly two months without omitting any putrid odour.

These effects on animal matter closely resemble those of pyroligneous acid and tar-water, and demonstrate almost to a certainty that creosote is the preservative principle of those fluids. This, however, has been further shown by the extraction of creosote from both of them. I shall confine myself to the preparation of creosote from tar, as it is procured more abundantly, and by an easier process, from that substance.

PREPARATION OF CREOSOTE.

In the dry distillation of tar from wood, the fluid collected in the receivers contains an empyreumatic acid water, which is rejected, and oil of tar, which is placed in glass retorts and rectified. In these two distillations the oil of tar is at first light, but as the heat is increased, its gravity augments. At one period of the process the oil sinks to the bottom, and a fluid which is poor in crosote, and consists mostly of *upione*, and other substances that interfere with the purity of the creosote, floats above it; this is poured off, and the pale yellow tar-oil is heated. Carbonate of potass is added, until the carbonic acid is no longer disengaged on shaking; the mixture is decanted, in order to separate the acetate of potass, and the oil is again distilled in a glass retort, and all the first products that float on the water are rejected. The oil is then dissolved in a solution of caustic potass of the specific gravity 1,12; heat is thereby developed, and a portion of the materials composed of eupione, &c. not being dissolved, floats on the surface, and is removed. The alkaline solution is poured into an open capsule, and regularly heated to boiling. It rapidly absorbs the oxygen of the atmosphere, whereby a peculiar oxidizable principle in it is decomposed, and the mixture then turns brown. After cooling in the open air, diluted sulphuric acid is added until the oil is set at liberty. It is then distilled with water, holding a little caustic potass, and the whole is kept boiling until the quantity of oil which passes from the retort becomes diminished; at this point the distillation should cease. The oil and water in the receiver are again distilled with potass, and the same treatement with sulphuric acid repeated, as in the former instance. A third distillation is then made, and a little phosphoric instead of sulphuric acid is added, in order to take up some ammonia retained in the oil.

The oil is then for the third time dissolved in caustic potass, and if the preceding processes have been carefully managed, they combine, without leaving any residue of eupione, and the mixture, on exposure to the air, does not turn brown, but takes on a slightly reddish tint. As long, however, as any eupione remains, and the mixture turns brown, the solution in potass should be repeated. In this state, the creosote is not entirely pure, but it may be used for medicinal purposes.

It may be obtained perfectly pure by distilling it with water alone, then rectifying the product of the distillation repeatedly, until no water passes over when the heat is raised to 203° C. The last product is creosote unalloyed by eupione, picamare, water, or other matters.

M. Reichenbach endeavoured to simplify this tedious process; but he found that the product was always unfit for internal use, while its action on the surface was much impaired. So procured, its emetic effects were most violent; a single drop applied to the tongue caused in the space of a minute, excessive nausea with

tremors, succeded by vomiting, and great prostration of the powers. These effects he attributes to the presence of eupione, and he therefore recommends the process above-described to be followed on all occasions.

PHYSIOLOGICAL ACTION OF CREOSOTE.

Applied on the tongue in a concentrated form, creosote causes voilent pain, though no redness or tumefaction is present. a strong taste of smoke extends to the throat. Poured on the skin, it produces a burning sensation with rubefaction and erosion.

Flies, spiders, and small fishes die in the course of two minutes, immersed in a solution of twelve drops of creosotc, in two ounces of water. Two drachms given in half an ounce of water to a puppy-dog induced the following symptoms; complete prostration of muscular power, drooping of the head, fix ation of the eye, vertigo, apparent stupefaction of all the senses; the respiration, from being laboured, was at the end of three minutes almost entirely stopped by an abundant secretion of viscid, filamentous mucus; to which was added vomiting of whitish milky fluid, with spasmodic contraction of the abdominal muscles. These symptoms got gradully worse for two hours, the respiration becoming more laborious, and at longer intervals, the limbs being seized with tremors, then with convulsive contractions, and the whole ending in death.

On opening the body of the animal, all the tissues of the body except the liver, exhaled a strong odour of creosote. The mucous digestive membrane gave signs of inflammation throughout its whole extent; the matters contained in the stomach coagulated white of egg, and heated, gave out the powerful tar smell of creosote. In the heart and the immediate great vessels the blood appeared to be much more firmly coagulated than usual. The lungs were gorged over the greater part of their extent with reddish-brown blood; the more ruddy parts of them floated in water readily: the darker portions scarcely swam at all. No sign of congestion about the brain appeared.

On injecting equal parts of creosote and water into the carotid artery of a dog, the same symptoms were produced, but death ensued more speedily.

If concentrated or diluted creosote be added to blood, the latter thickens and becomes reddish brown, with small spots of white, probably coagulated albumen: on further exposure to the air, the blood passes to a yellowish-red colour.

The signs of poisoning with creosote, therefore, are the redness of the gastrointestinal mucous membrane, the peculiar thickness and colour of the blood, the property possessed by the matters in the stomach of coagulating albumen, and more especially the peculiar odour exhalated by all the tissues of the body.

Plants watered with a solution of creosote, fade and die in the course of few days.

MEDICINAL EMPLOYMENT.

M. Reichenbach's first essays of his newly discovered remedy were made on slight burns, infantile excoriations, and wounds. Subsequently he was induced to try it in extensive burns by hot iron and boiling fluids: in itch and various kinds of tetters: in gangrene consequent on extensive compound fracture of the leg: in caries of the phalanges of the fingers and toes: in toothach, though it fails to put a stop to the caries of the tooth: in open, fungous whitelow; in scrofulous ulcers of the throat, leg, and joints of the fingers: in ulcerated whit-swelling of the knee of two years' standing; in chancres and other syphistic; ulcers: in wounds from cutting and piercing instruments, caustic alkalis, &c., in which cases the wounds did not cure by suppuration, but by actual descication caused by creosote. In all these instances he has found the remedy most effectual and astonishingly rapid in its operation. Thus in a case of old-standing and scrofulous ulceration of the throat, with purulent discharge from the ears, the ointment of creosote to the former, and the injection of creosote water into the latter, put an end to both in the course of three weeks.

Internally, M. Reichenbach has given it is several cases of hemoptysis; in two of these, the sanguineous expectoration had continued for upwards of a week, when the administration of four drops of creosote, on sugar, daily for four days, arrested the flow of blood.

Turning to the practice of the French physicians, we find that creosote has been successfully employed in burns by Berthelot and Goupils, who observe, that in treating these with creosote, the tendency to cicatrize from the circumference to the centre, and the consequent contractions and irregularities, are avoided; in various dry and moist tetters by Goupil, Coster, Berthelot, Martin-Solon, Duchesne-Dupare and Dauvergne: in chancres and old venereal ulcers, by Künckel, Lesseré, and others; in sanious ulceration of the cervix uteri, by Colombat: in a cancerous ulcer of the nose, by Brechket: in chronic inflamamation with suppuration of the edges of the eyelids, by Coster: in cancer of the womb, by Hippolyte Cloquet and Tealier: in varicose, ill conditioned ulcers of the leg, by Goupil, &c. Chilblains are also considerably benefited by frictions, with creosote ointment or water. M. Regnart, of Paris, among many other patients, had the good fortune to relieve the gifted Broussais from an excruciating toothach, by the free application of concentrated creosote to the carious tooth; we cannot wonder that the worthy professor should be an advocate of the doctrine of 'irritation.'

As this application of creosote may be of more extensive and familiar use than many others, it may be well to inquire how it acts as a sedative in this instances. When the teeth are painful it is almost always becomes the nervous pulp near to the root is exposed to the contact of the air. If in this circumstance a few drops of undiluted creosote are applied, a fierce increase of pain is the first effect, then a total cessasion of it: in this, either the nervous pulp is destroyed as by some caustic: or the creosote, by coagulating the albumen of the fluids that are always flowing from the caries, forms an albuminous layer that defends the pulp from the air; or lastly it acts

as a powerful stimulant, causing the inflamed vessels of the pulp to contract and expel the load of blood by which they are oppressed. In any case the pain is apt to return, and this fact is only explicable by one of the two latter suppositions ; for so long as the irritating cause, carious bone, remains, so long are the vessels of the pulp liable to relapse into their former congestion.

Creosote has been employed by the French physicians in pulmonary phthisis, but from all that I have read on the subject, the alleged successful cases are strained, and should not be recorded as such. It has not been more successfully used in several cases of chronic bronchitis by inhalation.

British practitioners have not as yet essayed the effects of creosote, and indeed this is too often the case with regard to new remedies. My friend, Dr. Copland, however, is an exception to this rule; he tells me he has employed it in cachectic affections as a tonic, and also in dropsical cases, where it has proved diuretic. In two cases of diabetes, he considers that he was not allowed to make a fair trial of it. The dose he gives is generally from 1 to 8 minims three or four times a day, combined with powdered liquorice root, into pills. In porrigo favosa, he has used a lotion of a saturated solution of creosote with good effect.

My own experience of the effects of creosote is as yet confined to cases of scrofulous ulcers of the leg, tooth-ache, lumbago, and aphthæ. In the first case, of ulcers, I premised a seton in the arm, and the rapid desiccation of the ulcers caused by the creosote had no ill consequence on the brain or any other viscus. In tooth-ache I have verified the reports above alluded to. In the case of rheumatism I found the remedy at first produce distressing nausea, but the warm and copious sweat that ensued soon compensated for that symptom, and effectually removed the rheumatic pain ; copious diuresis was also one of its effects.

In a case of extensive aphthous ulceration of the mouth occurring in an adult, I employed the following wash with the greatest advantage ; the sloughs came away after the second time of washing, and the depressions in the mucous membrane filled up with astonishing rapidity; several of the ulcerated surfaces were as large as half of a sixpence.

Creosote.....	½ a drachm
Gum Arabic mucilage,.....	1½ ounce
Camphor Mixture.....	10½ ounces

Mix.

To wash the mouth every two hours.

MODE OF ADMINISTERING CREOSOTE.

M. Reichenbach says, that his observations demonstrate that in the cure of certain ulcers, tetters and wounds, creosote water was sufficient. But it should be remembered that water does not dissolve more than about 1-80th of creosote—a proportion that will be found most inefficient in the generality of obstinate cases of ulceration. In such instances the employment of pure creosote becomes necessary.

The application of concentrated creosote to ulcers, causes, in the first instance, more or less of inflammation, which, however, quickly subsides ; as soon as this inflammation appears, the remedy should be discontinued for a few days, and the wounds allowed to remain quiet. The application is then renewed with similar consequences ; and this is repeated until the bad condition of the ulcer changed, that is, until the greenish pus becomes white, the blue or white flesh becomes red, and firm granulations fill up the solution of continuity. Creosote should therefore be employed more freely at the commencement than at the close of the treatment of these cases. When the ulcer has taken on the appearance above described it will suffice to dress it with the creosote ointment, or water, or even desist altogether from its use, and introduce other desiccating remedies.

The best mode of applying it, is by means of a camel-hair brush to paint the surface of the sore ; or from five to a dozen drops may be placed on the surface of a poultice, and this applied over the diseased point.

When used to stop external hœmorrhages it may be poured by drops into the wound ; but in these cases it seems to act with more certainty if imbibed by cotton or lint, and thus applied.

To form a lotion for the employment of frictions, from two to eight drops are added to each ounce of distilled water. Creosote ointment is made from ten drops of that substance and one ounce of lard : it may be used either to dress ulcers or to rub into the sound substance.

The internal administration is either in draught or pills ; the former being composed of one or two drops of creosote dissolved in camphor mixture ; the latter of the same quantity and some absorbent powder with mucilage. This dose may be repeated three or four times a day, and may gradually be increased to eight drops.

The inhalation of creosote is effected, first, by steeping paper in it and placing this in approximation with the nostrils; next, by heating the creosote in the immediate neighbourhood of the patient, so that he cannot fail to inhale the fumes: or, lastly, a portion of it may be poured into hot water in a Mudge's inhaler, and the creosoted vapour inspired in the usual manner.

It should not be continued internally for too long a period, for it is apt to produce irritation of the system and pains of the stomach and intestines. Demulcents should accompany its employment, and should occasionally replace it.

From all that I have advanced concerning the therapeutical properties of creosote, the following general conclusions may be made.

1. That creosote is beneficial in the different stages of burns.

2 It cures the majority of herpetic, furfuraceous, squamous, and crustaceous skin diseases.

3. It cicatrizes obstinate syphilitic ulcers, prevents, or diminishes suppuration, and des-

troys the fungous growth without injuring the surrounding tissues. It also corrects the condition of cancerous ulceration.

4. In phthisis and bronchitis, though it fails to cure either, it facilitates greatly the expectoration.

5. Chronic lymphatic tumours are frequently dispersed by frictions or fomentations of creosote.

6. It is almost always successful in allaying the pain of carious teeth, but dose not prevent its return nor the progress of the caries.

7. It arrests capillary hœmorrhage with remarkable certainty, but fails in that from the large vessels.

8. It is an effectual remedy in atonic rheumatism, and may be tried with chance of success in cachectic disorders"*

OBSERVATIONS ON LEPRA AND PSORIASIS.

By C. W. Pennock, M.D.†

Great attention has been directed for some years past to cutaneous diseases. Practitioners of every grade are becoming aware of the necessity of studying their various Characters, and discriminating their several kinds. Yet still much obscurity prevails, even among scientific men, with respect to their distinctions, and no little confusion undoubtedly exists in the minds of too many members of the profession with reference to their treatment. As a general rule we may say that at present there is too great a leaning to the employment of specifics, and too little confidence in the application of those general principles of treatment, which probably exert almost as much influence on the diseases of the skin, or at least on the states of system that produce them, as on other maladies, the general management of which is understood.

The publication of cases of affections of the skin in periodical publications has not been sufficiently adopted. Cases published in this manner become more familiar, and bring the characters of disease and its treatment more home to the mass of professional men, than the formal contents of elaborate works can ever do. Experience obtained by the observation of individual cases, and perhaps the best substitute for such experience, or rather for the mode in which it is acquired, is the record of cases of a similar description. We purpose, therefore, to lay before our readers such facts and observations as appear from time to time in monographs or in other journals, facts and observations which may seem adapted to increase the general amount of information on the subject of cutaneous maladies.

The paper before us contains the result of the observations of Dr. Pennock, in the Hôpital St. Louis. At that hospital the student enjoys the opportunity of listening to the clever fancies of Alibert, and the valuable lessons of Biett. He enjoys, also, another and a far superior advantage, the power of watching a great number of cases, of studying Nature on a splendid scale. Let us now introduce our author, and his facts to the notice of our readers.

The paper is confined to the elucidation of the characters and treatement of lepra and psoriasis. In order that no misconception should occur, we should explain the sense in which those terms are used.

"Lepra, in accordance with the definition of Willan, signifies a cutaneous squamous affection, characterised by round patches raised on the borders depressed in the centre, from which exfoliations of diseased cuticle take place, independently of any vesicular or pustural formation.

This disease makes its appearance by the formation of slight elevations resembling enlarged papillæ of the skin, which are firm and solid, and which are covered with thin, dry scales; small circular and raised patches of diseased surface form; the central portion soon becomes healthy, leaving raised circles of morbid structure of the skin."

"Psoriasis bears so striking an analogy to lepra, that both have been considered as being essentially the same disease. In each the commencement is by small and hardened elevations, covered by thin, dry scales; the causes producing them are the same, and the only important differences existing between them, are the varieties of figure. In confirmation of the truth of this position, it may be observed, that spots of lepra corresponding with the description of Willan, are frequently seen intermixed with those of the irregular patches of psoriasis."

Eight cases are detailed, and remarks on the general and distinctive features of psoriasis and lepra are appended to them. The majority are instances of psoriasis, but we shall take those of lepra first.

CASE I.—LEPRA VULGARIS—CURED BY THE HOMŒOPATHIC TREATMENT—RELAPSE AT THE END OF FIVE MONTHS.

A locksmith, æt. 21, entered l'Hôpital St. Louis in March, 1833. The legs, arms, head, presented an eruption in the form of small scales on a red base, which was slightly raised above the level of the skin; these scales were dry, and of a white, shining, micaceous appearance. The elevations were circular, and varied in diameter from two lines to half an inch; they were equally raised in the centre, as at the circumference, and touched each other at their outer border. Their appearance was that of psoriasis guttata. They covered the back, breast, and the external part of the superior and inferior members. The disease had commenced in March 1832. It then resembled the present affection; in three months it was removed by sarsaparilla, alkaline and sulphur baths, and the internal use of pills of some sort. In July 1832, the disease returned and continued till the time of his admission

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* "I believe that Mr. Morson, of Southampton Row, is the only manufactures of creosote in London."

† Amer. Journ. of Med. Sciences. February, 1835.

It was now treated homœopathically. The patient was ordered a solution containing a millionth part of a grain of arseniate of potash, which was prepared in the following manner: —A grain of the arseniate of potash was dissolved in an ounce of water, which contains six hundred drops; one of these drops containing one six-hundredth of a grain, was put into an ounce of distilled water, of which one drop then contained one thirty-six hundredth of a grain of the salt, and thus the dilution was proceeded in, until the minute dose of a millionth part of a grain was obtained.

The patient was interrogated each day respecting his feelings, the state of the secretions, &c.; in a word, as regards his general health. No perceptible effect was produced, yet notwithstanding this, the patches became smaller, the desquamation ceased, and on the places which had been affected by the disease, circles were seen, where the skin was grayer than that of the healthy parts, but without being either raised or depressed; these spots rapidly became paler, and the patient left the hospital on the 3d of June, completely cured. He had taken during his residence there, one eight-thousandth part of a grain of arseniate of potash."

On the 2nd December 1833, the patient returned with small circular spots of psoriasis on the scalp and back.

The preceeding case may be made a present to the homœopathists. Those who are disposed to believe that one eight-thousandth part of a grain of arseniate of potass removed the patches of lepra, will, no doubt, be gratified with the issue of the case. The incredulous will display their usual scepticism, and hold in contempt the folly or the knavery of the disciples of Hahnemann.

We suppose that Nature may safely be allowed the credit of doing as much in this instance as the eight-thousandth part of the grain of arseniate of potash. But we will not presume to insist on this rational opinion, and we leave to the homœopathists the laurel and the crown. Dr. Pennock observes that the lepra vulgaris in this case commenced in the form of psoriasis guttata, and that such has been the mode in which all the cases of lepra vulgaris he has witnessed did commence. Ordinarily, the psoriasis diffusa is seen intermediate between the psoriasis guttata and lepra, but here the transition from the psoriasis guttata to lepra was direct.

CASE 2. PSORIASIS GUTTATA AND DIFFUSA, WITH LEPRA VULGARIS—TREATED BY FRICTIONS WITH IODURET OF AMMONIA.

A weaver, æt. 27, admitted in April 1832. The disease had commenced in November 1827, in the form of isolated pustules. It had been at various times and under the influence of various remedies temporarily benefited. On his admission his condition was as follows.

"The arms and legs of the patient, present,

First. Spots, some of which are as large as the hand; others the size of a ten cent piece, red, raised, and covered with scales, which are dry on their internal and external surfaces, and of a pearly whiteness.

Secondly. Circles from one to two inches in diameter, of which the borders are elevated and covered with scales, whilst the central portions are healthy, and on a level with the sound skin. These are situated principally on the abdomen.

Thirdly. Other spots of the size of a small pea, which are slightly raised above the skin, are of a bright red colour, which disappears upon pressure, and are covered with minute scales having the characters of those first mentioned; these elevations are the seat of violent itching. In the course of two months these spots become much enlarged, and form patches an inch in diameter, the skin in the centre of which is without scales, smooth, and healthy; the outer border remaining elevated, and covered with small, dry scales."

For two months, pills of the sulphuret of antimony were exhibited; but were discontinued in consequence of the violent gastric pains they occasioned. The tincture of cantharides was next administered without producing any sensible change. On the 1st of August, he quitted the hospital, and on the 6th of September he returned. The "Fowler's solution" was now given for a month, without service. On the 2nd of October, M. Gibert directed the employment of frictions with the ointment of the ioduret of ammonia, ℥ss. morning and evening.* These frictions were continued for twenty-nine days, when the patient took eight alkaline baths. The result of this treatment was, we are told highly satisfactory, all the spots disappearing, and their places being indicated by a slight red colour. By the 5th of December, however, the disease had reappeared on all sides, in spite of the frictions. He now gave up all treatment until the ensuing Winter.

Dr. Pennock remarks that, in this case, lepra and two forms of psoriasis were seen on the body of the same individual, confirming, he thinks, the opinion that they are essentially the same disease. That they are essentially of the same class we admit, depending, probably, on similar causes, and originating in a similar state of constitution. Thus the syphilitic tubercle, lepra, and psoriasis are evidently connected with each other, depend on the same state of constitution, and require the same kind of treatment. But they are not therefore the same disease, because they present characters differing in some respects, and run a course which also exhibits some distinctive feature. Such is the case with common lepra and psoriasis, and we conceive that, though in many particulars analogous, they are far from being actually indentical.

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* "The formula for the preparation of this ointment varies in proportions of the ioduret, from ℈j. to ℥j. to an ounce of adeps. The weaker preparation being used when the disease is recent, and the stronger when it is chronic. As the ioduret decomposes by exposure to the air, the ointment should be kept in stopped bottles."

CASE 3. PSORIASIS INVETERATA—TREATMENT BY THE SULPHURET OF ANTIMONY, SUBSEQUENTLY THE OINTMENT OF THE IODURET OF AMMONIA.

A shoe-maker, æt. 40, was first affected with psoriasis, which commenced behind the ears, in the Spring of 1809. From that time till October 1832, the disease hade made progress, but not uniformly; for it had been temporarily benefited upon more than one occasion.

On the 22nd October 1832, he was received into the Hôpital St. Louis. The treatment at first consisted in the infusion of succory; subsequently that of hops, conjoined with pills of the sulphuret of antimony. Of the latter, commencing with one pill a day, and gradually increasing the dose, he took sixty-three pills in thirty-four days. In the middle of December, we find the following specified as the condition of the patient. The entire scalp is covered by small yellowish scales, which extend over the forehead and temples. On the nape of the neck, and on the back, are twenty patches of various sizes, elevated, red, of a circular form, and covered with light, dry, thin scales. On the breast are two large patches; one of which was cauterized a month ago by the pernitrate of mercury, but the scales have again formed upon the cicatrized surface. Five patches are seen on the abdomen; on the forearms several eruptions originally distinct from each other have united, and envelop the limb in its entire extent.

The skin covering these surfaces is raised, red, traversed by numerous transverse furrows, which are again crossed by superficial depressions running longitudinally. From these intersections result small squares, covered by dry, white, thick scales, which are very different in appearance from those of psoriasis diffusa. There were patches on the lower extremities, but their elevation was less than on the upper.

On the 25th of February, no marked amelioration had occurred. The antimonial pills were now suspended, and frictions of the ointment of emetic tartar substituted. The effect of this was to produce much inflammation and pustules, and give the psoriasis a resemblance to impetigo. In April, the tartar emetic ointment was abandoned, and the tincture of cantharides given internally. It occasioned nausea and diarrhœa, and was abandoned also. On the 26th of October, the patient was directed to make use of frictions with the ointment of the ioduret of ammonia, ʒss. every day. On the 28th of December, the last time when Dr. Pennock was able to inspect and to report upon the case, it appeared much improved. The patches, says the report, are very slightly elevated; they are of a pale red colour, which disappears under the pressure of the finger, and the cracks and furrows formerly observed, have almost entirely disappeared; a slight formation of thin, small and dry scales is still seen. Interspersed amongst these spots are portions of skin, which is not rough, hard or dry, but which has become soft and pliant; in a word, perfectly healthy.

The patches of psoriasis of the body have undergone the same alterations as those of the arms; they are less numerous, very slightly elevated, and the desquamation is altogether furfuraceous. None of these spots present the rough cracked appearance which was formerly seen upon their surfaces.

(To be continued.)

JOURNAL DES CONNOISSANCES MEDICO—CHIRURGICALES, &c. FOR 1835.

We now commence our translations from the above new work which has appeared in Paris, by giving two papers. The one on a new bandage for fracture of the neck of the thigh bone is a valuable communication, to which we solicit the attention of our readers. We have another valuable paper with numerous plates on luxations; it is being translated, we hope to have it ready by next month.

THE HYDROGEN-GAS CAUTERY, INVENTED BY MONSIEUR AMEDEE LE MAPELIRE, SURGEON-DENTIST.

It is now long since I was first struck with the imperfect methods which we usually employ for destroying the dental nerve. I have made trials of all kinds and far too numerous to be mentioned in this place. I at one time fancied I had surmounted the difficulty by employing a jet of the flame of Hydrogen-gas, which I directed so as to play on the cavity of the carious tooth. But in addition to the inapplicability of this method, except to teeth of which the fleshy parts were much exposed it was attended which the serious inconvenience of exfoliation of the crown in consequence of the impossibility of securing the surrounding parts from the contact of the flame. After numberless experiments, I was so convinced of its imperfections, that I returned, in my practice, to the old methods of employing iron heated to a white heat or else to caustics.

Compelled however as I was, day after day to resort to these means, I only became the more convinced of their inefficiency.

The plan of destroying the nerve without the application of heat by means of a piece of finely drawn metal or of a horse hair, is now very deservedly consigned to oblivion.

Every one must concur with me in acknowledging, how unavailing caustics usually

are in a great number of cases, and must have experienced likewise the inconveniences which attend the employment of them. As for actual cauterization, the business of preparation is always more or less tedious and commonly alarming to the patient. You must make up your mind to heat the instrument in his presence, or else expose yourself to the liability of finding it grown cold at the time of application: and in spite of this precaution, the cautery, being pointed finely like a needle, although it be 4 or 5 lines from its extremity is still useless.

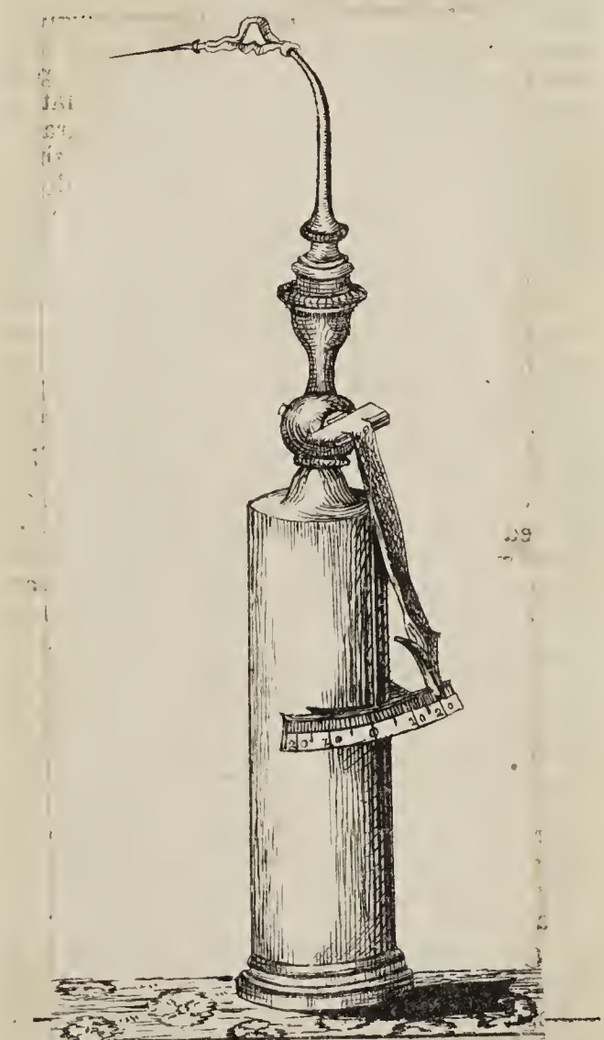
It occurred to me to avail myself of the peculiar property which platinum possesses of supporting the combustion of Hydrogen-gas, and of becoming red hot under the influence of a current of this gas. After a few attempts, I succeeded in contriving a cautery so far superior to all others, as not to admit of being compared with them.

The apparatus consists of a cylindrical reservoir of copper, whose sides are very strong. This is charged with Hydrogen gas. There is a small cock, of which the key, instead of terminating in the usual manner, is mounted with a needle; as you make this needle move to the right or left, the cock is opened; as it approaches to the central line, it closes. This adjustment was of importance, in order to be able with the same hand to hold the instrument without difficulty and as well as to open and shut the cock. There is besides a *pas de vis* which serves to adopt the reservoir forthwith to a *foulante* pump. Inside there is another hollow which receives a bent pipe of small dimensions; the canal of this at its open extremity terminates in a very small orifice. Two small plates of platinum are soldered to a *rondelle* which is screwed at the extremity of the pipe. These two plates are themselves soldered with fine gold on the lateral portions of a platinum wire, which is reflected at one end, and pointed at the other. The cock is turned; the gas lighted, and the current is made to play on the platinum wire, which immediately becomes heated to a white heat, and preserves *this* temperature so long as the gas is not withdrawn. I have abandoned the plan of inflaming the gas solely by the contact of the platinum, in consequence of the considerable loss which this occasioned. The Le Maire cautery has the advantage of being capable of being heated in a second or two, behind the patient, without his suspecting any thing about it; and the temperature is raised much higher than any of the usual processes, by which we obtain instantaneous cauterization.

Confining ourselves to our profession of dentists, we leave to others, who may be disposed to apply our method in such cases where cautricrzation is preferable to other surgical operations, the task of modifying the size, &c. of the instrument we have been describing.

Should any of our brethren or Physicians wish to form a more exact idea of the application of this instrument, it will give me sincere pleasure to repeat before them the experiment at my house No. &c.

A. LE. MAIRE.



NEW BANDAGE FOR FRACTURES OF THE NECK OF THE THIGH BONE.

Fractures of the neck of the thigh bone happen more frequently in old people than in adults or children; and if to the reasons that oppose themselves to the uniting of fractures in general in old people, are added those which particularly belong to fractures of the neck of the thigh, we shall have difficulties enough to encounter in this latter case in arriving at a perfect cure without shortening or altering the form of the foot. This great difficulty of arriving at the desired end has given rise to a number of bandages which have almost all been rejected; the best of them have certainly been founded on the principle of continued extension, and it is also in this foundation that I have constructed mine.

Before entering more dceply into the subject, we must first acknowlcdge one thing that even with an imaginary bandage, one for instance that constantly keeps the joint extended without exercising pressure on other parts of the body, and consequently leaving scars, we shall not in certain cases be able to obtain a perfect consolidation of the parts. Thus there are some circumstances where the age or the disorders caused by the fracture, the respective position of the parts would render it useless, if not sometimes dangerous, to apply the method of continued extension.—We have not therefore invented a new bandage except for those cases which present a prospect of success. In a more extended work we propose to decide on those cases which at present remain for the decision and the tact of the Surgeon.

After the useless trial of a great number of bandages it has been concluded in the present day to prefer, in many cases, the position of the half bend, or double bend. In some particular circumstances they still *per reconize* to bandages in extension of Disault or Boyer, notwithstanding the serious inconveniences arising from their use. I have wished by my bandage to increase the number of the cases where permanent extension can bc employed, and avoiding what is excepted to in the bandages of the above two illustrious surgeons just cited. To establish a continued extension, which in keeping the parts together, without fatiguing the limb or leaving scars neither at the bend of the thigh or *Pischion* or the instep, this is the end to which the efforts of surgeons are directed, and which I have and ought to attain in the construction of my bandage. I have not the presumption to think that all fractures of the neck of the thigh can however be well cured. The formation and uniting of the hardness of the bone will always be attended with the samc difficulty in old people, but I hope those cases where cure is possible to increase by my bandage the chance of success.

The fracture of the neck bone of the thigh is moreover not the only malady that I propose to cure ; the idea of the bandage itself occurred to me on another occasion. In fact, how many fractures of the bone of the thigh with its splinture fractures of from one and a half to two inches long have required amputation. Also fractures *en bec de fiûte* with a projection from one of the fractured extremities across the muscles, have caused the same necessity as well as other fractures of the leg.

I havc at this present moment the thigh boue of an individual who had his thigh fractured in splinters by the wheel of a cabriolet having passed over 4 or 5 inches above the articulation of the *f'emoro tibiale.* The inferior extremity of the above *taillée en bec de fiûte* made a projection of an inch across the muscles of the hind part of the thigh. By means of my bandage which I have since modified I was enabled to form a junction consolidation with shortening only of an inch and a half. Three splinters each being about two inches in length and about one in width supported at each fractured extremity, the bone thus united, that it appeared *invaginer* formed the foundation for the callosity. This man who was upwards of 50 years of age having since poisoned himself I have been able to obtain his thigh bone. I am persuaded that with my apparatus in the way I have sincc modified it I should have succeeded in curing with a considerable less shortening and in all indentical cases it can be used with advantage, and amputations avoided.

In these cases of compound fractures of the ncck bone of the thigh we have not only to do with old people, adults and young people, may also be similar compound fractures. The latter are more likely to escape accidents from a prolonged compression but the deviation of a member or its loss would be for them an irreparable misfortune. I think that with my bandage it is possible in a great majority of cases to avoid it. I will therefore pass on to its description.

That the fractured member should retain its proper form, it is necessary that the continued extension should follow the direction of the bone. I do not think it would be possible to better obey the principle than I have done. My points of support are taken direct from thc hind part of the thigh, and all the space between the arms and the bend of thc thigh, to the bottom of the foot, furnished with a shoe, which supports itself in a guitar adaptcd to the size of the limb by means of its buckles. It is also possible to support the shoe like that of Boycrs by leathern bandages, fastened round the leg. This last method has the advantage of corresponding better with the form of the limbs but I do not think that its compression is as regular and equal. With these precautions it would be difficult to occasion scars on the instep or ancle bone. The support is at all events on as great a scale as possible.

Whilst not only the points of support of the upper parts always the most difficult, and productive of the greatest danger, undoubtedly to a debilitated person, the continued pressure leads always to accidents, but in all cases the pressure is supported with more ease when the point of support

is fixed and under no circumstances can move but with the bandages of the lower part of the thigh. However, well wadded this last may be, *it sera tongones tiraille de dedans endetiors par l'attelle extensive ;* the adducent muscles will always be violently compressed, and will of themselves support the efforts of extension, *car la tubérosité sciatique par sa forme arrondie el recouverte qúelle est d'un tissu cellulaire sous lequel elle semble rouler, échappera à un sous cuisse tiraillé en dehors.* By our firm fastening of the under part of the thigh we have also avoided a danger pointed out by M. Boyer let the pain of the patient be whatever it may ; he cannot detach the bandage which he could do with former apparatus ; with ours the patient is entirely at the diseretion of the surgeon.

The hollow in which the thigh is lodged. is composed of three parts, the external, middle and the internal The latter disengages itself from the hollow, and passing between the thighs, *vienl, en se contournant faire saillie á la partie interne.* This branch ought to be continued as far as the level of the front part of the thigh, there it is united without effort by a strap to the external branch of the hollow. This last previously furnished with a good padding ean aceording to the size of the individual be wadded with either lint or cotton.

Supposing it were not necessary to pay any attention to the support of the thigh, still, it is evident that the pressure of the lower part of the thigh is mueh less painful with my bandage, beeause the foundation on which it is supported is mueh larger, and because the tuberosity oeiatiea cannot get out of place; for in faet it cannot be forced out tiraillê udehors. Of all the complicated aceidents which follow the treatment of compound fractures *du col et comminutives du corps du f'emur, l' ankilose* is eertainly the most frequent and inevitable and too mueh cannot be done to prevent it. Allowing the limb to move without changing the position of the fragments and also to eontinue the extension, is, I think the problem to be resolved. In order to do this *je brise ma tige à extension vers la réunion du tiers supericur avec les deux tiers inférieurs de maniere à ce que ce bris corresponde au pli du jarret, puis j'articule par trois points différens à un pouce de distance chaque, pour que l'appace pnisse s'accomoder à des longeuis différentes de membres.*

A very simple mechanism prevents the joined parts moving in any way without the will of the Surgeon, and when the hardness has made some progress, more or less quickly aecording to the age of the patient or the eomplieated nature of the accident I allow slight movements in bending *dans 'articulation* titro-femorale. I ean even permit the limb to remain for a longer or shorter period in the half bend position and always eontinuing the extension. If in this movement the museles of the interior part of the thigh and leg, I can easily loosen one or two *crains du cric* by means of which I make my extension and the parts will always remain united. This ehange of position however slight, is agreeable to the patient and eannot hinder the eonsolidation. The Surgeon ought to know when this modifieation may be permitted, but I think there is no rule can be given on this subject.

The angle formed *par le brisement de la tige a extension* ought to be furnished with eushious to spare the bend of the knee.

This modification of the bandage is not described in the plate because I had not thought of it till after the plate was engraved, but it is easy to imagine it.

Such are the partial advantages of each part of the apparatus but when once applied there are many more still. Supposing there is a fracture of the fémur, I can at all events give ease to the limb. It will neither be maimed nor scarred with those triple bindings and cushions with which it is surrounded and suppressed. Who has not seen the most fleshy muscular limb shrunk and discoloured at the end of two or three months when relieved of its severe confinement. If I have a simple compound fracture to handle, *en bec de flûte du corps du fémur*, it is then when I have once practised, and that I have got a continued extension it will be unnecessary to return. Every day if it is required I can dress the limb with changing its position. I can apply between the limb and the *tige d'extension* a bandage de Sculter and raise it as often as is necessary, wetting the limb with acetate of lead &c. in fact do every thing that is necessary without in any way disturbing its position.

I shall have another advantage which I alluded to before derivable by my apparatus in the position the most nor male which not being able to be changed it the limb will not require to be compulsed by straps a Scultet's bandage, or a simple roll of linen will suffice, and the air being allowed to penetrate will accelerate the cure and add to its strength.

Another Case.—I suppose a direct fracture with the trinus that accompanythose sort of fractures. I suppose the *sortie* of a fragment across the muscles and the existence of several splints. Amputation does not appear to be absolutely necessary, then will it require, with the view of practising the continued extension to wait for the coming out of the splints and the cessation of all inflammatory accidents caused by the tonises? or else it will in the dressings destroy each time the work of the preceding day what time is lost in the cure! how many accidents are caused by the pricking of the splints through the movements of the limb, and however, in an adult in perfect health the consolidation can take place in two months, or two months and a half, with a suitable bandage. To well fulfil the intentions required, it is requisite that the limb ? should be supported at its full length so that it may form one level with the scale. Whatever may be the bed on which the patient is inclined by degrees, the thigh makes its own hollow and falls under the level of the limb and destroys the parallelism. This my *cuvette* prevents, and it also prevents even in the slightes movement the patient from deranging the parts, for the leg and the basin are as if soldered together.

The three-horse shoes sliding the whole length of the *tige* can be carried to any point of support that may be necessary, and in no way to prevent the dulsing. The two branches of iron which forming the extremity of the *tige* is fixed on the border of the shoe by means of a buckle and prevents the outside turning round.

In short, as the right cuvette cannot be used for a fracture of the left limb and reciprocally, the two screws that are at the top of the *tige* are used to secure the cuvette in a convenient position.

There is no doubt that many imperfections still remain to this apparatus which will be found out by constant usage and modifications made accordingly.

I am aware that scars will form on the instep and the ancle but I think I have obviated their frequent occurrence.

The apparatus may be expensive, but that in my opinion, ought not to be taken into consideration.

It may perhaps frighten the patient. But let the plate representing the limb be placed in my apparatus with that which is to be seen at the end of the third vol .of Bager's Surgery, and I think the comparison will be to my advantage.

At all events I owe success to it, and that it may be known, it is requisite that it should be tried. I offer it to the examination of men of science.

ON THE PLAGUE NOW PREVALENT IN EGYPT.

By Clot-Bey.

[The following particulars of the plague are communicated by Clot-Bey, in a letter to Dr. Chevrin, dated Cairo, the 26th March, 1835, from his actual observation. There are but twenty physicians at Alexandria and Cairo ; the greater part are ultracontagionists, who cover themselves with waxed cloth, use long sticks, and examine their patients at some distance : others, who are less timid, merely avoid touching the sick,—feeling the pulse through a tobacco-leaf, or after having soaked their hands in oil or vinegar. Clot-Bey himself, and one Spanish and three French physicians at Cairo, and two Frenchmen at Alexandria, use no precautions, and examine the dead bodies very carefully.]

The plague commenced in Alexandria in November ; for a month it was very fatal, and altogether 20,000 persons have died. It began in Cairo in December, but during the last fortnight only it has been of a serious type. The first symptoms are pain in the head, nausea, and vomiting, injected eyes, staggering walk, as if from drunkenness, stupid expression, white moist tongue, full and frequent pulse. At this period emetics and diffusible stimuli may be tried, but Clot-Bey knows nothing of their effect. On the

second or third day there is mental confusion, sometimes delirium ; the tongue is dry in the centre, with red edges ; the skin hot ; there is often pain in the epigastrium ; rarely diarrhœa. Buboes and carbuncles. There is now actually irritation on the digestive canal, brain, and lymphatic glands, and bleeding and cupping are employed, with cauterization to the buboes and carbuncles, to fix this irritation in the skin. On the fifth and sixth day, petechiæ and blue patches on the skin. Revulsives to the extremities. This treatment has apparently saved some patients. The cordses have not the hideous aspect which physicians have described and artists painted. The petechiœ are particularly on the neck, sides of the chest, and limbs ; the buboes in the groins and arm-pits, very rarely in the neck ; all the lymphatic glands were enlarged in those who had no buboes ; carbuncles in three cases only. No particular tendency to rapid decomposition ; subcutaneous veins not apparent ; heart and veins in the cavities gorged with black blood, as well as the liver and spleen ; this viscus was generally doubled in size and softened ; arteries empty ; kidneys of a deep violet. gorged with blood, hœmorrhage in their pelves ; the stomach always contained a blackish fluid ; its mucous membrane, much injected, exhibited red patches like petechæ, which sometimes, from their size, might be called ecchymoses; their last degree is ulceration : the intestines were in a similar condition, but less well marked ; the lymphatic glands were always engorged. sometimes increased five or six times, softened, and of a colour like lees of wine, and sometimes black ; those of the groin, or arm-pit, by their agglomeration; formed a homogeneous mass of a colour almost always like lees of wine, with effusion of black blood into the surrounding cellular tissue ; a similar change was seen in the chain of glands along the vessels of the abdomen and chest ; and in many cases the extravasation of blood around them amounted to hæmorrhage. Sub-arachnoid veins and the sinuses gorged : parenchyma of the brain and spinal marrow natural, except in two or three cases, where it was softened.

[Clot-Bey, who is evidently an anti-contagionist, admits that a letter is not the vehicle for the discussion of so important a question. He has observed some facts tending to prove transmission ; but how many (he says) are there against it ? The physicians students, and nurses, who were in constant contact with the sick, had not at the date of his letter suffered. The diseases began in November, in Alexandria ; the first cases in Cairo were in January; and the communication was free between Rosetta, Damietta, which were not affected, and Cairo, where it only arrived after two months. Isolation in houses and ships has not prevented it. The poor are the greatest sufferes, and particularly the Maltase, who are the dirtiest, and whose temperament approaches that of the Arabs. Neither inundations, nor the bad system of burials, explain it; as great inundations have occurred during the last ten years, and there was no deficiency of burials ; nor were they more hastily performed than in 1831, during the prevalence of cholera.]

Journal Hevdomadaire des Progrésdes Sciences Medicales, Juin, 1835.

ON THE EFFECTS OF NUX VOMICA AND ACONITE ON ANIMALS.

By Dr. Lombard, of Geneva.

Dr. Lombard while employing these remedies in his clinical practice, thought of trying their effects on animals, and made some experiments accordingly, chiefly in reference to their action on the heart. The experiments were performed on frogs, whose hearts beat with great regularity, and for a considerable time after the animal has been mutilated. The medicine was introduced into the stomach, or applied locally to the heart, which was laid bare after the animal had stupified by blows on the head.

1. NUX VOMICA.—When introduced into the frog's stomach, it produced tetanic convulsions, which in a few hours caused death. The contractions of the heart were sometimes strong and complete, sometimes irregular, tumultuous, and intermiting ; always diminished in frequency. Applied locally to the heart, it slightly stimulates, rendering the pulsations more energetic and frequent.

2. ACONITUM.—Its enternal employment renders the pulsations less frequent, without irregularity. It has therefore, a decidedly sedative effect on the heart.

From these experiments, M. Lombard ventures to predicate the effects of the same remedies on the human body, and thence deduces the following practical inference.

1. That nux vomica cannot be used with advantage in any diseases of the heart ; for, although it diminishes the frequency of the pulsations, it renders them irregular.

2. That the aconite, being decidedly sedative, is a proper remedy in active diseases of the heart.

This effect of aconite has been observed on the human subject. In cases of poisoning, the contractions of the heart have been found diminished, and almost suspended. (Orfila, *Toxicologie*, t. ii. p. 221.) It is also considered by the homœ-pathists to be an energetic antiphlogistic. On these grounds, M. Lombard has tried it in acute enteritis, pneumonia, &c. with success, and also in hypertrophy of the heart. He has often found some drops of the tincture diminish the frequency of the pulse, but more frequently diminish its strength and hardness.

Gazette Méd. de Paris, Oct. 10, 1835.

CLINICAL REPORT OF THE ACADEMICAL YEARS 1832-33 AND 33-34.

By G. Del Chiappa,

Professor of Clinical Medicine, Pavia.

[The only part of this long report which we shall analyze, relates to the general character of the diseases, or to what is called the epidemic constitution, a very important object of medical research. In selecting Dr. Chiappa's paper for publication, we are not solely influenced by its value, but partly also by the wish to illustrate the state of medicine as widely as we can in foreign countries. While it will be found that we have availed ourselves, to a great extent, of the French and German Journals, it will probably be remarked that our extracts are much more sparing from the Italian. This is, no doubt, partly owing to the greater difficulties we have met with in obtaining the latter; but there is another cause, the greater rareness of papers of value in the periodical literature of Italy. For instance, the present is the only thing we could cull from a volume of upwards of four hundred pages, constituting the Numbers of Omodei's Annals for July and August of the present year.]

About the year 1802 (says Prof. Chiappa) a constitution of sthenic diseases commenced in Italy and in all Europe, and has continued to the present time. It has increased, decreased, and become variously modified, sometimes preferring one form, and at other times another (such as gastric, bilious, rheumatic, &c.); but notwithstanding these variations, the general character of disease has always been phlogistic. The treatment required has been the antiphlogistic, modified according to the various circumstances. The principal changes since 1802 were in 1805-6, when the constitution was rather asthenic; in 1809, 10, and 14, when it was strongly phlogistic; in 1816-17 when it inclined to the nervous, continuing more or less phlogistic, with a prevailing disposition to rheumatic and catarrhal, or gastric and bilous diseases; and in 1832-33, when all the diseases manifested a nervous character. In 1834 the constitution became eminently phlogistic, the diseases requiring very full and frequent bleedings. The prevailing diseases were inflammation of the viscera of the head, chest, and abdomen; and numerous fatal cases of puerperal fever. In this phlogistic constitution the sanguineous system was principally affected. The signs of this were strong pulsations of the heart and arteries, most intense fever, blood covered with thick, coriaceous buff, the inner surface of the arteries a deep red, and as if varnished; and large fibrinous clots in the auricles and ventricles, large vessels and small branches: symptoms of encephalitis, pneumonia, and abdominial inflammation in the same subject, and traces after death of inflammation in more than one organ, and often in all.

During the continuance of this constitution, the mortality was considerably increased. Thus in 1833-34 it was seven per cent: 316 patients having been admitted and 14 died where as in 1832, 1833, but two persons died; there being but three deaths and 150 cases. There was also an increase in the mortality of the whole population of Pavia and its suburbs, which would have been still higher had there not been fewer deaths from chronic diseases, as the winter was unusually mild. It was observed that those who had previously any organic disease, particularly of the circulatory system, when attacked with inflammation, either died or were in the greatest in danger.

[The Pathological value of the intense red colour of the inner coats of the arteries is a subject of uncertainty, and the cause of much difference of opinion. Dr. Chiappa attributes the redness in his cases to the state of the blood during the general inflammatory condition of the whole system, depending on the epedemic constitution of the seasons. In one case, the particulars of which are given, he states, that besides large masses of coagulable lymph in the cavities of the heart, and cylindrical or conical concretions in the arteries, the coloured part of the blood was deposited, by means of the coagulable lymph, on the inner surface of the arteries, from which in many places it could be removed in small layers by the point of a scalpel. The redness thus depending rather on a varnish spread over the inner surface, than on an injection of its vessels. Rasori first observed this, and Dr. Chiappa confirms it. (This colour of the arteries may probably be produced by many causes. The intensely deep red stain which is found in some fevers, where the blood is almost in a state of putridity, and quite fluid, must be owing to a condition the opposite to that described by Dr. Chiappa.) Several very long cases are given; we shall condense one, as well from its illustrating Dr. Chiappa's views, as from its intrinsic interest.]

S. L. æt. 38, an agricultural labourer, robust, sanguinous, and addicted to wine, suffered much from domestic miseries; for two or three years his health had declined, and he was affected with a number of complaints generally classed under hypochondriasis, such as headach, vertigo, wandering pains in the chest, loins, and extremities; flatulence, dyspepsia, anorexia, or at other times excessive hunger; bowels sometimes constipated, sometimes relaxed; piles, ardor urinæ, palpitations of the heart; occasional feberile attacks, &c. He had consulted during this time all the medical men of his neighbourhood, who must have considered his disease as essentially inflammatory, for they had bled him 30 times. But he never gained by treatment more than partial and temporary benefit. When he entered the hospital he had inflammation of the right testicle, which was enormously enlarged and accompanied with a deep fistulous ulcer of the scrotum. There was a fistulous ulcer above the left eye, which discharged pus constantly.

Pulse hard, and tense; occasional but infrequent febrile disturbance. Like other hypochondriacs he daily complained of new diseases and pains in other situations, and particularly of uneasy and uncomfortable sensations, which are endured with difficulty, and indicate a proportionate lesion of the sensorial power. Antiphlogistic treatment was employed, and chiefly bloodletting and the blood drawn was sizy. Other antiphlogistic remedies were prescribed, such as cathartic neutral salts, nitre, tarter emetic, digitalis, &c. The equa lauri cerasi was tried, but without advantage. Bloodletting was performed in all eighteen times, and the blood continued to present the same appearances. The disease indeed appeared to yield, the symptoms were more or less quieted or removed, the testicle diminished gradually towards its natural size, and the ulcer healed; but the various organs were so deeply involved, that a cure was beyond the powers of art. He died, forty days after admission, in a lethargic state which had been preceded by long and obstinate wakefulness and slight delirium.

The examination of the body was performed with great care by that experienced anatomist, L. Ciniselli of Pavia. Beneath the integuments of the head was a purulent sinus, opening above the upper eyelid and extending to the temporal region, with necrocies of the corresponding extremity of the great ala of the sphenoid bone. Many vessels distended with blood passed from the cranium to the dura mater, which was enormously indurated, and adherent in many places to the arachnoid. This membrane was opaque, thickened, covered with white spots of lymph, and contained much limpid serum. The hemispheres of the brain were adherent inferiorly, and the pia mater every where minutely injected. The substance of the brain excessively hard, its vessels more numerous and larger than usual; the lateral ventricles full of limpid serum and the plexus choroides unnaturally developed. The tuber annulare was intensely red, externally, and internally and the inflammation extended to the substances of the peduncles of the cerebrum, as far as their entrance into the hemispheres, to the medulla oblongata, peduncles of the cerebellum, especially the left, entering with it into the hemisphere, around which point the cerebral subtance was reduced to a pulpy state for half an inch square. The whole cerebellum was more or less inflamed, externally and internally, and chiefly on the left side. Pus was found beneath the dura mater of the spine, about the last cervical vertebra, and at the termination of the medulla, originating from caries of the fifth and sixth cervical, last three dorsal, and first two lumbar vertebræ, by which their bodies, and the intervertebral substance of the cervical, were destroyed; deep purulent sinuses passed from these into the deep muscles of the neck, and to the viscera of the thorax and abdomen: the dura mater corresponding to the caries was a deep red, the medulla beneath an unformed pulpy mass: above this the opaque arachnoid was distended with serum, and the spinal marrow extremely inflamed over all its surface: the last cervical and dorsal nerves, for an inch or two, presented the marks of intense inflammation. The lungs were universally and strongly adherent to the costal pleura, and the pulmonary pleura was one or two lines in thickness. The right lung was full of small abscesses, as well as the upper lobe of the left; and its inferior lobe congested with blood. The pericardium was adherent externally to the surrounding parts; between it and the heart was a considerable mass of yellow cheesy matter, in greater abundance at the base, and penetrating between the fibres of the heart itself. The heart was not altered, but contained polypiform concretions. The diaphragm was totally adherent to the lungs and heart. The liver was very large, yellow, and, as well as the gall-blader and duodenum, full of bile. The spleen enlarged, and adhering by plastic lymph to the parts around. The portal system gorged with blood. The pancrease large' and unusually hard. The stomach placed vertically and contracted; its parietes very thick, and the pylorus indurated; many lumbrici in the intestines. The right kidney enlarged, of a dirty grey colour, very easily broken up. The right testicle three times the size of the other, its tunies inflamed and thickened, and an abscess with an hydatid in the epididymis. The right spermatic cord enlarged, was deferens dilated and containing pus. The right vesicula seminalis converted into an abscess, which extended into the prostate. The cartilage of the right sacro-iliac symphysis destroyed, and caries of the articular surfaces of the ilium and sacrum, from whence pus escaped into the left iliac fossa.

[In this singular case (which is without exaggeration called a compendious pathological museum), there was neither headach, cough, marked dyspnœa, nor pyrexia, except slight and seldom. Dr. Chiappa imagines that the disease commenced by inflammation of the sanguiferous system, in which all parts necessarily participate, and from thence was diffused through all the internal parts of the body. During the high inflammatory constitution of the year 1834, the chronic affection became acute, which led the patient to enter the hospital, where he died.]

The constitution of 1832-33 was of a nervous character. There was a predominance of affection of the nerves in all the forms of disease, and very little abstraction of blood was comparatively necessary. This lesion of the nervous system was met with in all the forms of thoracic, abdominal, and articular inflammations, rheumatic affections &c. There was also a great prevalence of the neuroses; neuralgia, gastralgia, hepatalgia, hysteria, hypochondriasis, &c. The chief characters were, 1. Very marked slowness of the pulse. 2. Blood not sizy, but liquid and very soft, the crassamentum like the thinnest jelly, rendering the serum turbid and coloured on the slightest motion. 3. Urine thin, crude, approaching a green colour.

The diseases themselves were of a particular character, marked by the following symptoms: course of the disease irregular; changeable pains in various parts of the body; pulse full, but unresisting; one pulse varying from another; frequently palpitations of the heart; tongue generally foul, bowels usually sluggish, right hypochondriac, umbilical, and epigastric regions frequently so sensible as not to bear the slightest touch, or even the weight of the clothes. The same increased sensibility over the chest; painful sensations in the false ribs, scrobiculus cordis, upper part of sternum, &c.; deep and frequent sighing: sometimes the patients feel well, at other times altogether indisposed; sometimes they sleep, and at others pass the night in constant wakefulness; they are now in good spirits, and shortly after depressed and silent; at one time the appetite is good, and then altogether absent. It is a singular circumstance that these patients do not visibly decline in appearance, and even after a long illness they are found abundantly fat. The mortality in the hospital during this year was only two per cent.

[It seems now probably that a mitigated humoral pathology will be founded on the basis of pathological anatomy, the cultivators of which were for a considerable time determined solidists. M. Chiappa's observations on the state of the blood in various epidemic constitutions are worthy of attention, whatever importance may be attached to the particular medium through which he views his facts. The condition which he calls inflammation of the whole sanguineous system would be more commonly called Plethora, as it is difficult to conceive inflammatory action of such extent, and involving so important a system, without more intense symptoms. Dr. Barlow, however, who has paid such close attention to the general condition of the body in the earliest deviations from health, uses the term constitutional inflammation to indicate a general inflammatory action in the system unattended by local inflammation: a condition marked by hard and quick pulse, white tongue, and increased heat of skin, which may continue for months or years without any specific disease ensuing, and with only progressive deterioration of the general health. The blood too is cupped and buffed, and antiphlogistic treatment alone affords relief.* The existence of this condition, as the effect of an epidemic constitution, is not remarked by Dr. Barlow. and he differs from our author in attributing the inflammatory action to the whole system, not to the circulatory system. Whether this condition can with strictness be termed inflammation is a question; there can however be no difference of opinion as to the treatment.]

Anali universali di Medicina. Luglio ed Agosto, 1835, vol. 75.

* Cyclopædia of Practical Medicine. Art. *Plethora.*

ON PERMANENT RETRACTION OF THE FINGERS.

By M. Goyraud, d. m.

Dupuytren described in his lectures a permanent contraction of the fingers to which coachmen and others were subject, whose occupation required the constant flexure of the fingers. Extension was prevented by strong bands running beneath the skin, from some part of the palm to the fingers: and from several dissections, Dupuytren decided that these cords were produced by a permanent contraction of portions of the palmar aponeurosis. M. Goyraud, as well as M. Velpeau, from examinations, object to this explanation, for the digital slips of the palmar aponeurosis terminate in and are fixed to the base and sides of the root of each finger, whilst the diseased band is situated in the middle of the finger, and is often prolonged to the third phalanx. They both therefore agree in referring this contration to a transformation into a fibrous band of a part of the subcutaneous tissue in front of the phalanges. M. Sanson thinks that this is the common cause, and that contraction of the palmar aponeurosis is an exception. The treatment recommended by M. Goyraud, is to make a longitudinal incision through the skin over each band when extended, to separate the lids of the wound, to detach the fibrous cords by dissection, and to cut across these cords thus isolated. If these cords in front of the fingers send processes to the first phalanges, and then pass on to be inserted into the second, they should be cut above and below these processes. If the section of these cords leaves in the wound partially detached shreds, they should be cut out. The fingers should be completely extended and fixed, and the wound healed by the first intention.

Sir A. Cooper recommends a small bistoury to be passed under the cord, which should then be divided so as not to cut through the skin; but this is only applicable to those rare cases where the cord is not adherent to the skin. Dupuytren recommends a transverse section of the cords and of the skin. M. Goyraud considers his own method preferable, as his longitudinal incisions will heal more rapidly than transverse, which must necessarily suppurate, and therefore are less likely to be attended with inflammation, which might injure the parts beneath, whilst the cicatrix would be linear, instead of broad and adherent.

Gazette Médicale, No. 31, 1 Août, and No. 32, 8 Août, 1835.

ON THE TREATMENT OF OZÆNA AND OTHER DISEASES OF THE ORGAN OF SMELL.

By Dr. James Heron,

President of the Medical Society of Orange County, in the State of New York.

Ozœna, or the fœtid, purulent discharge from the nostril, is ordinarily termed catarrh;

in its more advanced state, cancer of the nostril or throat, as it occupies principally the one or the other situation.

I have in my recollection an aged friend, who frequently complained to me of what he called catarrh, and that he was often in the night compelled to spring up in his bed by a sense of suffocation, caused by the falling of large quantities of matter from the back part of the nostril into the throat, while he slept. He was found dead in his bed one morning, at a time when he was enjoying his ordinary health, and this was believed to be the most rational cause of death.

Another died the past season by starvation and distress, occasioned by ulceration extending to and occupying the pharynx, so that for a considerable time before his death he could not swallow a particle of nourishment. The termination of this case was called cancer of the throat: and the patient had had for a number of years previous a very fœtid discharge from the nostril, accompanied with pain and soreness in the region of the frontal sinus.

And I now know a member of our profession, aged about 30 years, whom this disease has doomed and marked for destruction at no distant day. Ulceration has entirely destroyed the soft part of the right ala of the nose, the inferior spongiosum, the septum narium, a consideraqle part of the tonsil, palate and pharynx. The stench from the ulceration is so great that no person can comfortably be near him, although he endeavours to correct it by the most powerful aromatics;—deglutition is so difficult, that he scarce ever swallows anything but liquids, and these frequently pass out at the nostril. He has not for more than a year lain on his back, as the matter then passes into the fauces and endangers suffocation. For this reason he scarcely ever lies down at all, but sleeps in an easy chair with his head inclined forward on a support.

Such had been the inefficiency of the treatment of ozœna but a few years ago, that men so eminent as Boyer and Dr. Physick were induced to pronounce it absolutely incurable in its advanced stage. About three years since, I had a case of this disease which baffled all my resources—and when I sought for light in relation to it, by conversing with my medical friends, I was disappointed, until my attention was directed to some cases recorded in the American Journal of Medical Sciences, published in Philadelphia, which were successfully treated by injecting chloride of lime in solution to the part affected. Since then I have used in all affections of this kind the diluted liquid chloride of soda, and the chloride of lime in solution, indiscriminately, and with equal success; and so confident am I of their efficacy, that I believe no ordinary case of ozœna will resist their proper use. I have also found that much benefit will be derived from passing the smoke of Spanish tobacco through the diseased nostril several times a day, and that the application of olive oil to the internal surface of the nostril is necessary to prevent the excoriations which the ichorous discharge is apt to occasion, and also to prevent the hard and dry incrustations into which the matter in passing is apt to collect.

In the application of injections to the upper and posterior part of the nostril, some management is necessary. The injection should be made while the head is inclined forward and downward; at the sametime, by inhaling the breath through the nostril the injected fluid will be brought into contact with the diseased surface, where it may be retained as long as is necessary.

I have never been able to use the injection of chloride of lime of the strength it was used by Dr. Horner, (viz. a tea-spoonful to a wine-glassful of water): my experience teaches me that applications made here (as to the eye) are better when they are moderately sharp, than when they are too strong. The sensation produced on the olfactory nerve by the application of the chloride of lime or soda, is of that pungent kind frequently the consequence of a free use of mustard or horseradish—and any one can conceive how distressing it would be to use the injection beyond a bearable strength. These applications excite a free discharge of the natural healthy mucus of the follicles of the membrane of the nose, and effectually correct the fœtor of the discharge; in which particular they exceed every other application I have known to be made; and which would be sufficient inducements, if none other offered, to persevere in their use. They should be used twice a day, i. e., morning and evening. —*United States Med. and Surg. Journal for October*, 1835.

NEW TREATMENT OF BLENORRHAGIA IN WOMEN.

By P. Ricord,

Surgeon of the Venereal Hospital, Paris.

[M. Ricord, in consequence of the difficulty of curing chronic dicharges from the vagina and uterus at the Venereal Hospital, was induced to use strong injections of nitrate of silver, such as had been recommended in this country in the gonorrhœa of men, and also the solid nitrate. The following is the result of his trials.]

He used at first injections composed of ten grains of nitrate of silver to an ounce of water, but as the first trials were not followed by benefit, he conjoined with injections, compresses wet with the solution, which were left in the vagina, directing their removal if they produced pain. Some retained them two or three hours, when they felt som heat; but others twenty-four hours. On examining the vagina with a speculum the next morning, the mucous membrane was covered with a dark pellicle; and when this became detached on the following days, the mucous membrane beneath it appeared pale, without any sign of inflammation or ulceration. In some cases this stopped the discharge for two

or three days, when it returned in less quantity: in others, the secretion was at first increased, but gradually diminished. In all cases the injection was repeated at four or five days' interval, and in some no benefit was derived. Encouraged by a certain number of successful cures of discharge from the vagina, M. Ricord next tried injecting the uterus, with a syringe expressly adapted for this purpose. This was followed by heat in the hypogastric region, by movements, some nervous and in three cases by a complete cure. The injection in the first case brought on the menses eight days before their time, and was followed by slight menorrhagia, lasting a fortnight, after which the purulent discharge ceased. In the second, three injections at eight days' interval were necessary: the menstrual secretion was increased. In the third, where there was amenorrhœa of six months' standing, the menses followed the second injection. Fear of bad consequences following this mode of injection, led M. Ricord to substitute another. A speculum is introduced, and the so uteri touched lightly with nitrate of silver, so as to whiten the mucous membrane; the speculum is then gradually withdrawn, and, as the vagina appears at its extremity, it is likewise touched. Many times daily during the next four or five days an injection is used, consisting of one ounce of acetate of lead, dissolved in two pounds of water.

The speculum is again introduced at the end of this period, and those parts which do not bear the marks of the nitrate of silver are again touched. Two, three, four, or five applications may be necessary, at four or five days' interval. Superficial cauterization may be made without the speculum, by introducing a long caustic holder to the neck of the uterus, and then withdrawing it gently and turning it. This has been followed with considerable success; and is not only useful in chronic cases with or without alteration of the tissue of the mucous membrane, but in the acute stage, either at first or after a certain duration of the symptoms. The inflammatory symptoms were never augmented. For uterine blenorrhagia or catarrh, the caustic has been introduced into the cavity of the neck of the uterus with equally favourable results and without accidents; and in such cases it has often acted as an excellent emmenagogue, and might be used as such.

[The introduction of strong injections or of the actual nitrate into the cavity of the uterus, is too hazardous an experiment to be recommended. From physiological researches we know that the semen passes into the Fallopian tubes, a fact which certainly should put us on our guard against forcing in irritating fluids in such a way that they might pass even into the peritoneal sac. The strongly rooted aversion among females in this country to such a remedy as the introduction of the solid caustic would exclude it from emmenagogues, and confine its use even in vaginal discharges to our sick hospitals.]

Bulletin Général de Thérapeutique, Juin, 1835.

MR. TRAVERS DRAWS A LINE OF DISTINCTION BETWEEN ERYSIPELAS AND OTHER INFLAMMATIONS OF SKIN, WHICH NOT UNFREQUENTLY RECEIVE THAT NAME.

(*Continued from page* 274.)

"Erysipelas is constantly confounded with inflammations of the integuments, which arise under different circumstances, and are of a distinct character. Thus the inflammatory œdema so commonly following the bites of leeches on the eyelids, prepuce, scrotum, and other cellular textures, parts much disposed to erysipelas; the sympathetic erythema, or even supurative œdema, which takes possession of the integument of a limb, in inflammation of the fascia, veins, or absorbents, and in sub-fascial collections of matter; and the sympathetic blush of the skin covering a gangrene, as of the tunica vaginalis testis or a mortified hernia, or a carbuncle, are denominated erysipelatous, by which it is intended to designate an adventitious form of the disease. The state of the integument which results from infiltration of the cellular membrane by an extravasated fluid, from sympathy with inflamed absorbents or veins, and from changes of the subjacent membranes, or accumulations beneath them, is widely differing from erysipelas; and we should greatly reduce the list of cases classed and reported under this head in surgical practice, if we would confine the term to those in which the skin, or skin and cellular membrane, are primarily affected.

If a portion of integument like prepuce or eyelid swells, reddens, and instead of simply suppurating and ulcerating, a central portion turns gangrenous and separates, leaving an ulcer penetrating the integument—a very frequent case—it is a misnomer to call it erysipelas. It is inflamed œdema, a disease altogether local.

Serous and purulent effusions in the cellular membrane are frequently met with, independent of any discoloration of the skin, as in many of the cases lately described under the term of 'diffuse inflammation of the cellular membrane'—and in the rapid œdema from substances acting as poisons on the stomach as well as in anasarcous swellings. Commencement in the tegument, external or internal deficiency of adhesive inflammation, and a peculiar state of the system with which the inflammation is connected, whether spontaneous or the result of injury, are diagnostic characters of erysipelas." 130.

Mr. Travers having disposed of the *physique*, proceeds to the *metaphysique* of erysipelas. He likens it to tetanus, and our readers will see how.

"In what does the local disease consist? Inflammation, indicated by a preternatural fulness, color, sensibility of a portion of the skin derived from the injection of its vessels with red blood, vessels which are in health transparent, and carrying only the

colorless part of the blood; which, although capable of being affected by the permanently increased action of the heart, are nevertheless so far remote from or, independent of its ordinary influence, as to be unaffected by the state of the heart's action, and to carry on action and processes without any obvious sympathy of the heart, as evinced by the general circulation. The sympathies of the skin are peculiar in being more direct with the brain than with the heart—the blush precedes the sensible increase of the heart's action, if any be perceptible as the pallor precedes the state of syncope. so, also, the fever of scarlatina, measles, and small-pox precedes the eruption,and the inflammation of erysipelas precedes the fever. Such an interval not peculiar to erysepelas, but applying also to cutaneous inflammation from burns and scalds. as well as the injuries of cutting tearing, and bruising the surface, tends to shew that the sympathy is slowly evinced between the heart and skin, as compared with that existing between the latter and the nervous centre. Hence I consider erysipelas to be a nervous inflammation, bearing to the actions of the vascular system, that irregular and undefined relation, which tetanus has to the actions of the nervous system. and it is remarkable, by the way, how the injuries are in their nature assimilated, which tend to the production of one or the other of these diseases." 131.

The causes of the desease when idiopathic.

" Of idiopathic erysipelas the causes are referred to sudden changes of temperature, a humid soil and atmosphere—of which, particular conditions at uncertain periods of the year, render the dissease more frequent. Especially also, an unchanged and therefore, as well as from other causes, a polluted atmosphere; such as the ill-ventilated apartments of the poor and even of many old, parochial and eleemosynary institutions, manufactories in crowded cities, narrow allies, and underground chambers, where running sores, and other uncleanlinesses additionally contaminate the stagnant air.

Indigestible food, exciting or depressing passions of the mind, excessive fatigue, or habitual indolence, coupled with a torpid and vitiated state of the great secreting organs; luxurious living, and the habitual use, of fermented liquors to excess, are among the causes which predispose to it." 133.

It has generally been conceived, that the skin sympathises more closely and immediately with the pulmonary and the gastric mucous membrane then with any other tissue or with any organ. But Mr. Travers believes that the sympathy of the skin and brain is more intimate than those that we have mentioned.

" Its sympathies (the sympathies of the skin) are universal, but the brain is the organ of sympathy, and it were as idle to look for any other medium of communication between the skin and the heart, the lungs, stomach or the kidney, as to renew the search for a duct extraneous to the circulation between the two last-named organs, to explain the rapid transition of fluids. The skin is the organ, consequently, upon which a large proportion of the diseases to which the body is liable, make their attack—not so much by actual ingress as by disordering or arresting its function. Such is the commonest origin of fever, of visceral inflammation, of glandular, and many other diseases. It is remarkable in how many of its own diseases it suffers secondarily, or by sympathy with its fellow organ, the interior skin, or lining membrane of the veceral cavities and alimentary canal. With the pulmonary surface the skin sympathizes in the noxious effects of atmosphere and temperature in all their qualities and vicissitudes, with the heart in its varieties of circulation from a thousand causes, whith the stomach in the quality and quantity of its ingesta, and remarkably with the kidney, so as indeed, in some instances, almost to reciprocate its functions. But with none is its sympathy so active and so instant as with the brain, of which, in a certain sense, it may be regarded as a production." 139.

It is perhaps not quite certain that all sympathies between organs travel through the brain, The spinal marrow and the ganglionic system may probably do a little work in this way, and the experiments of Le Gallois, under the search for any other medium of communication than the cerebrum, may not be absolutely idle.

Mr. Travers observes that all the predisposing causes of erysipelas are, in their nature, debilitating, while its exciting causes are such as irritate enough to produce inflammation. Does it ever, says he, appear either as a spontaneous affection, or as a result of injury in a sound condition of the system? He answers the question—never.

" The symptoms, as well as the causes, are such as characterise deficient power- In addition to those of passive congestion in the vessels of the brain,—as pain and a sense of weight extending throughout the body and limbs, confusion, lethargy, deafness, or wandering delirium,—frequent retching, which it is often difficult to appease, and a degree of prostration resembling that of typhus, which incapacitates the patient from moving in his bed, are symptoms of erysipelas, though confined to the extremities. A surcharged state of the veins and sinuses of the brain, and a quantity of fluid beneath the arachnoid tunic are the principal, if not the only, recent changes observed in post-mortem examinations.

The apopletic character is still more strongly marked when the disease affects the head The patient is scarcely to be roused from his stupor, and the breathing is stertorus. I have seen maniacal delirium present, but it is rare compared with that of dreaming and muttering. All accidents accompanied with shock or concussion of the brain, or inducing an undue determination of blood to that organ, and especially wounds of the face and hairy scalp, are particularly prone to erysipelas. Indeed, it is a consequence of scalp wounds almost invariably, when closely bound up by strips of resin

plaster, to promote union. The practice is highly objectionable. On the other hand their edges should not, if clean incised wounds, be permitted to gape, as this promotes a diffused suppuration of the cellular membrane. The agglutinative should be unirritating, and the daily dressings light, with interspaces for the discharge. Sutures should never be employed." 144.

The treatment of the disease is considered by our author at some little length. He believes that the best plan lies in medio between the two extremes of active depletion and active stimulation. As a general rule, there can be little question that this approaches the truth more nearly than any other. But, like all general rules, it admits of exceptions, and the rational surgeon would not select some treatment intermediate between the furious blood-letting advocated by Mr. Lawrence and the bark of Dr. Fordyce, and apply this to all cases of erysipelas that came before him. The robust countryman and the squalid London gin-drinker neither exhibit the same symptoms nor can reasonable be deemed subjects for the same kind of treatment. In the first the pulse is full, the tongue white, the tint of the erysipelas florid—in the second, the pulse is weak, the symptoms verging towards prostration or typhus, the tint of the erysipelas pale or bluish. Such phenomena can never indicate the same remedial means, and it is as rational to endeavour to explain away their difference by a miserable joke upon milestones or by a query where town ends and the country begins, as it would be to deny that a difference exists in the water at London Bridge and at the Nore, because no waterman could exactly point out the line of separation between the salt-water and fresh.

There are two great practical precepts in the management of erysipelas, which can seldom, if ever, prove fallacious—the first is, to endeavour to re-establish healthy secretions—the second, to be guided in the use of tonics or depletion by the general condition of the patient. In the cutaneous erysipelas, and in that in which the cellular tissue is involved, the first five or six days, or even more, are occupied with the increase of the eruption. During that period there is generally a good deal of febrile disturbance, and the symptoms are more or less inflammatory. From the sixth to the eighth day the eruption has usually attained its height, and part or the whole of it beings to desquamate. The constitutional symptoms at that period exhibit a remarkable change. The patient suddenly becomes much lower, nay, he may abruptly fall into a typhoid state. It is for this period and for this stage that the surgeon should anxiously watch. Prior to it, aperients to improve the alvine secretions and salines are in most cases the best remedies. They assist and they do not interfere with the operations of Nature But so soon as the patient begins to exhibit the symptoms of depression, the surgeon must turn round and promptly administer support, if not stimulants. It should be recollected that this change occurs rather suddenly, and the patient, who, the day before may have seemed in a condition of vigour and of active pyrexia, is found, perhaps, with scarcely any pulse at the wrist, and in a state bordering on, if not actual prostration.

Mr. Travers next touches on tho practice of incisions. This he lauds, yet not more than it deserves. The proper employment of incisions is certainly one of the greatest of modern surgical improvements. It has saved both limb and life. The incisions should be sufficient to effect three objects—to relieve the tension of the skin—to evacuate purulent matter—and to expose and give adequate vent to the sloughs of cellular membrane. These are the objects to be held in view—the exact dimensions of incisions can never form the subject of any certain rule. Yet those of inordinate extent must certainly exhaust the powers of the patient without affecting any corresponding good.

"The incisions may be proportioned to the mischief to the extent of three inches, but seldom need or should exceed that space. They should penetrate the entire cellular structure, and if arteries of a size requiring more than the pressure of the finger for two minutes be divided, they should be secured by ligature. The venous bleeding is beneficial; arterial is neither advantageous nor safe, as has been sufficiently proved.* Two, three, or more such incisions may be made, if an entire limb is affected. Of the puncturing practice I have no favorable opinion. It irritates, without effectually unbinding or unloading, and is a cruel prolongation of suffering, especially when the disease is situated on the face and head." 148.

The following are Mr. Travers' sentiments on bleeding:—

"In the presence of acute pain or in full habits with flushed countenance, I have bled once, and in the onset of gangrenous inflammation generally with advantage. I have also bled where the inflammation has been established and extending, and where the immediate margin of the gangrene (not arising from cold or chemical disorganization) has been of an intense red color; but seldom, I must admit, with any obvious benefit or encouragement to a repetition." 201.

Here we see the difficulty of determining the exact cases in which Mr. Travers tried venesection. It would appear that there are cases in which this remedy is beneficial, although it must be owned that practical men enjoy few opportunities of seeing such. Though the loss of blood may be sometimes beneficial in the erysipelas and diffuse cellular inflammation that terminate, or tend to terminate in gangrene, yet the remedy should be used with discretion, and with caution. In the mortification resulting from cold or from defective circulation, we fancy that the lancet can be seldom dreamt of.

Local depletion is highly spoken of by Mr. Travers. Much must depend on the circumstances of the individual case, and on the judg-

* "If such patients are left but for a few minutes to bleed, they are left to die, and the object and end of this invaluable practice are misunderstood. A needless extent of incision not only increases this danger, but is open to other obvious objections."

ment of the surgeon. The local depletion that often suits best is that which results from the employment of incisions.

In the general treatment, our author speaks highly, as most practical men have done, of opium. Attention to the secretions, and the proper exhibition of opium and of stimulants, may be said to constitute the essential principles of treatment.

We enter on the consideration of the Second Part of the present volume.

This consists of five chapters. We shall not be enabled to complete the account of the whole in this article, but a short one in our next number will terminate the view of the matter which appears to us to be adapted for criticism or susceptible of analysis.

The first chapter treats of the Nervous System and its Pathology—Sensation and Volition—Sympathy—Morbid Sensation—Morbid Action. For the opinions of our author on the various anatomical and physiological questions involved in the subjects here enumerated we must refer our readers to the thirty-seven pages of which the chapter is composed. Two sentiments, and two only, we shall quote.

"The physiology of the nervous system," says Mr. Travers," is at this moment in a state the most unsettled, and perplexed by conflicts both of anatomical detail, experimental result, and theoretical opinion. The more record of these differences would fill a volume." 227.

And "Experiment is extremely difficult of application, pregnant with fallacy; and closer examination convinces us that we are not yet in a condition to explain with accuracy the functions of the brain, as regards its several parts, more than the actual nature of those functions." 231.

(To be continued.)

MEDICAL AND PHYSICAL SOCIETY'S MEETING.

Saturday Evening, 1836.

J. Langstaff, Esq., 1st Member of the Medical Board in the chair.

Present Dr. Rankin, Dr. Wallich, Dr. D. Stewart, Dr. MacCleland, Dr. A. Stewart, Dr. O'Shaughnessy, Dr. Bain, Mr. Ledlie, Dr. Goodeve, Mr. O'Shaughnessy Mr. Dempster Dr. Cantor. and Mr. Corbyn.

Previous to the commencement of the business Dr. MacCleland adverted to the proceedings of the Society on receiving the plants the Governor General of India had honoured it with. He conceived the conduct of the sub-committee had been anything but what it ought to have been; that in making over the plants in the way, they had done to Dr. Wallich, they had proved their own incompetency to do justice to that honor which the Governor General had conferred on the Society. Had his Lordship intended the plants to have been made over to Dr. Wallich, it was obvious his Lordship would have done so himself, and not through the Society. At one time he Dr. MacCleland did not advocate the proceedings of the Society being reported, but now he saw the gain to be derived from Dr. Corbyn's reporting, and should strongly uphold that system: but for the report he should not have learnt this extraordinary proceeding on the part of the sub-committee. He thought the least that the committee should have done on finding themselves incompetent to arrange the plants and report upon them, would have been to have consulted Dr. Falconer, Griffiths, and Voight at Serampore: replies might have been obtained from these gentlemen, and the confusion which followed, avoided. It was a high compliment from the Governor General: but how was it met? He hoped there were other Botanists in the country besides Dr. Wallich. There was no one who possessed a higher opinion of Dr. W. than he did; but he thought it the reverse of a compliment to him, that he alone should be referred to on occasions like the one he had alluded to. The proceedings of the committee had placed Dr. Wallich in an unpleasant predicament, for it had placed him in the way of other botanists. Dr. MacCleland was surprised to find that the existence of the Saharanpore Garden was scarcely known to the Resident Members of the Society at Calcutta. Indeed it would appear that the sub-committee believed that there was only one botanical garden in all India. He might add that there was no one who took a deeper interest in botanical science, than Dr. Falconer; Dr. MacCleland did not think the Society had treated in the manner he deserved Dr. Falconer, concluded by observing that he could not refrain from expressing his displeasure at the proceedings of the sub-committee and proposing that another committee be formed.

Dr. O'Shaughnessy requested that the object of another committee, as proposed by Dr. MacCleland, might be stated.

Dr. MacCleland in reply said that his object was that such a committee might correspond with Dr. Falconer, and the other members above referred to.

Dr. D. Stewart hoped it was only necessary to say a few explanatory words in order to remove the impression which he regretted most deeply to find was entertained by Dr. MacCleland, owing to the wording of the report. He was an unworthy, he might say a nominal, member of the committee appointed to acknowledge His Lordship's polite communication, and he was quite sure that if Dr. MacCleland had read the committee's reply, (the merit of which belonged entirely to Dr. O'Shaughnessy),

he would acknowledge that the committee were impartial in the distribution which they *recommended*. A considerable proportion of the plants were recommended for Saharanpore, and Dr. Falconer's zeal and talents were particularly adduced in support of this recommendation. As a temporary arrangement the plants *were all* entrusted to the Botanic garden, not to Dr. Wallich in particular; indeed the communication which had so greatly flattered the Society came not direct from His Lordship, but from Jack or Tom or Bill Masters the Sirdar Mallee of the garden, who might be a most excellent gardener or botanist for ought he knew. Most assuredly, he was at the time the only proper person to whom either His Lordship or the Society could commit the plants. He hoped that Dr. Corbyn would publish the committee's reply to Mr. Masters, as that, he was quite sure, would satisfy his much esteemed friend Dr. Falconer that no immaginable slight was dreamed of.

Dr. MacCleland was prepared to acknowledge that the remarks which had fallen from Dr. Stewart altered the case, inasmuch as it appeared that the report had not given precisely the state of the question.

Dr. O'Shaughnessy thought that the sub-committee was perfectly right in the course it had adopted and especially in committing the care of the plants to so distinguished an individual as Dr. Wallich.

Dr. Wallich desired to offer a few observations in reply to his friend and fellow traveller, Dr. MacCleland's assertion that the Garden at Saharanpore appeared to be scarcely known to the Members of the Society in Calcutta. So far the reverse was the case that he could assure his worthy friend MacCleland that the best papers in the Society were from Saharanpore by that first rate talented man Mr. Royle, all of which papers had reference to the Garden at Saharanpore, which afforded proof, that that splendid garden was well known to the members here. With regard to the plants which the committee had committed to his especial care, he hoped the society would do him the justice to believe that the greatest care would be taken of them; indeed it would be his first endeavour and his happiness to do his utmost.

Dr. Goodeve said that the Society had the fullest confidence in Dr. Wallich, that he would do his utmost to promote the object for which the plants were sent to the Society. Dr. Goodeve, did not think that Dr. MacCleland's censure of the sub-committee was justifiable: on the contrary, commendation was due to the members composing it. The report drawn up by Dr. O'Shaughnessy did him great credit. What more, Dr. Goodeve enquired, could the committee do but entrust the plants to the care of so distinguished a botanist as Dr. Wallich? Living, moreover, as he does within our immediate neighbourhood, he might be considered the Botanical adviser of the society; but so far from the plants being given entirely into Dr. W.'s charge, they were merely handed over to him to be distributed hereafter at a convenient season to the localities most appropriate to receive them in various parts of the country.

Mr. Corbyn said that as some part of the correctness of his report had been called in question, he rose to say that the report was perfectly true, Dr. Goodeve had said that the society could not interfere with the plants after it had appointed a sub-committee, and therefore could not give any other reply than they did to Dr. Falconer. Had they done so, it would, in his (Mr. Corbyn's) opinion, have been exceedingly indelicate to their committee. But as it was now called in question, he begged to say that they could not consistently with the duty imposed upon them have acted differently from what they did. Almost simultaneously with the receipt of the plants his learned and valued friend Dr. Wallich arrived at the Botanical Garden where the plants had been deposited. In committing them to the keeping of such a man, Mr. Corbyn did not hesitate to say that they were placed in the hand of one of the first Botanists in the world. He, Mr. Corbyn, in the course of his reading, felt proud to say of his learned and valued friend, that this was the opinion entertained of him. In this committee to dictate to Dr. Wallich beyond the opinion they had given in their report, would, in his (Mr. Corbyn's) opinion, have evinced a degree of presumption, of which, he, for his part, would never be guilty.

Dr. Goodeve desired to know whether Dr. MacClelland would submit his proposition. Dr. MacCleland in reply said that he was only anxious that the society should be courteous to other botanists in the country.

William Mackenzie, Esq., A. M., of the Madras Establishment, proposed at the last meeting, was elected a Member of the Society.

Dr. A. Stewart, of the Bengal Presidency, was proposed as a Member by Dr. Dempster, seconded by Dr. D. Stewart.

Letters from the following gentlemen were then read:—

From W. Duff, Esq., Surgeon 38th Regiment, requesting that his name might be

withdrawn from the list of subscribers to the Society.

From Messrs. Arbuthnot and Co. of Madras, enclosing a draft for the balance of the Society's account with them, viz. Rs. 277-2-9.

From Messrs. Parbury and Allen, enclosing their account with the Society, shewing a balance due to them of £21-7-7. Their bill for periodicals furnished from June 1834 to November 1835, being £28-11 less the product of sales on behalf of the Society £7-3-5.

From Dr. McCleland, presenting to the Society a copy of his work on Kemaon.

From W. Stevenson, Esq. Assistant Surgeon, proposing that instead of the contemplated journal, five circulating libraries should be established in different parts of the presidency to supply the Members with periodicals. Mr. Stevenson conceives that the expence of these would not exceed that of a journal of selections, and that members would prefer reading the periodicals for themselves to having matter extracted from them by others. The writer thinks that Dinapore, Cawnpore, Agra, Neemuch and Delhi should be chosen for the library stations, whence the books might be circulated to the neighbourhood. A Committee of 3 or 4 Members, with a Secretary and Librarian, having the Superintending Surgeon for the President, might be chosen to conduct the affairs of each library.

From Dr. Wallich, enclosing an extract from Royle's work on the Botany of the Himalay Mountains, including some interesting remarks on the subject of materia medica, pointing out the importance of enquiries being made with the view of bringing to light the ample resources of this country in the production of Medicinal articles, and strongly recommending the subject of the native materia medica to the notice of the Medical Officers in India.

Dr. Wallich fully concurs in these remarks, and trusts that the Medical Society will use all its efforts to promote so desirable an object. He concludes by offering his services in forwarding the views of the Society in this matter. The extract will be found at pages 275 and 276 of Dr. Royle's work. It contains also a short account of the genus colotropis or murdar, by which the abovementioned observations are preceded.

A copy of the proceedings of the Bombay Medical Society was laid on the table.

It was proposed by Dr. Goodeve, seconded by Dr. Ranken, that an application be made to the Government to grant the Society the indulgence formerly enjoyed by them of transmitting their communications free of postage.

This was agreed to; and the President, Vice President, and Dr. Ranken were appointed to form a deputation to wait upon the Right Hon'ble the Governor General for the purpose of submitting this request to his consideration.

The following papers were then read and discussed:

Sketches of two undescribed venomous serpents with fangs behind the maxillar teeth, by Dr. Cantor.

Account of a human monstrosity in the museum of the Medical College, drawn up by Dr. Goodeve.

The first snake described by Dr. Cantor he calls the *Cerberus Grantii*. Its head is triangular, broader than the neck, compressed, covered above with little hexagonal keeled scales, between and before the eyes 13 small irregular, *lamin;* the muzzle obtuse; nostrils small. The lips covered with $\frac{9}{9}$ lamin; eyes small, prominent, lateral, iris greyish, brown, pupil viperine; mouth small; upper jaw, longer than the lower, with palatal and maxillar teeth, the last one of which much longer than the rest. The trunk cylindrical, tapering towards the tail, covered with little rhomboidal carinate imbricate scales. Color of the back greyish brown, divided by a number of black irregular bands, the chin, abdomen and tail white or grey with a zigzag black band. These serpents are 3 or 4 feet long. Rivers and tanks form their abode; sometimes they are found in damp places near the water. Some young ones kept by Dr. C. would not eat till they were put into water. Their principal food is fish.

The other snake is of a new genus, called by Dr. C. 'Potamophis.'* The species described in his paper, he denominates 'Potamophis Lushingtonii.' The head is ovate, a little broader than the neck, muzzle rounded; laminnasales nearly semicircular, perforated by the small nostrils in the middle; between the lamin nasales and frontales there is a single rhomboidal lamina;—lamina verticis formed like an episcopal tiara; temples covered with a number of laminæ; the upper lips covered with 8 lamin, the under lips with 9, smaller than those of the upper. The throat covered with a number of smaller scales, comparatively more numerous than those of the Cerberi and Pythons; color of the head dark olive brown; lips and throat whitish, eyes small, prominent, pupil black, round; iris golden, mouth moderate; in the upper jaw maxillar;

* Ποταμός-ὄφις.

and palatal teeth; the former numerous, small, sharp, reflex, increasing in size, so that the 2 hinder are by far the largest, covered in a folding of the palatal integuments; on their convex margin a fur, communicating with the opening of the excretorian duct of the venomous gland. Tongue greyish, bifurcate. Trunk cylindrical, increasing towards the middle, tapering to the tail, covered with hexagonal smooth scales, disposed in 21 longitudinal ranges, so as to leave the interstitial black skin open, which forms as many zigzag lines. The scales are olive brown, increasing in size as the 7 approach the abdomen, scales of the tail smaller, but of the same color and shape as those of the back. The abdominal shields are arched of a whitish color, marked in the middle with a black spot; anus covered with a large, sometimes bifurcate shield, surrounded with a number of granular scales. The length of the snake is from 2 to 3 feet, circumference of the body 2 to 3 inches. This ophidian is found in the river and seldom or never on dry ground; one in Dr. C's. possession however remained seven months out of the water without touching food. When kept in an empty bottle it cast its skin once a month, but this process occurred more seldom, when in water. The muscular strength of this serpent is remarkable. There is a striking peculiarity in the anatomy of the *Potamophis* the cystic and hepatic duct enter the duodenum together behind the opening of the pancreatic duct. This peculiarity has also been observed in the Accipenser Sturio (Ann. des sc. nat. Tome 29 ME pg. 194) The poison of these snakes appears to be less violent, than that of serpents armed with fangs in front.

The paper was illustrated by drawings by Dr. C.

The monster described by Dr. Goodeve consists of two female children united together in the thorax and upper part of abdomen by a broad connection extending from the sternum to the umbilicus. Below and above these two points all is natural. There is only one perfect umbillical cord but below that is seen another rudimental one about an inch in length.

The length of the whole monster is from 15 to 16 inches; circumference of the whole 11 to 12; circumference of connecting medium 9 to 10 inches; weight five pounds. On examining the internal structure it was found that there is one thoracic and abdominal cavity common to both children; these cavities being divided from each other by a single diaphragm. The walls of the thorax are composed of a double set of ribs with two sterni, one on the anterior, the other on the posterior part of the commissure. The abdominal muscles are likewise double. The abdominal and pelvic viscera of both children are perfect with the exception of the liver. This organ appears to consist of 2 perfect livers united together by their convex surfaces. This arrangement of the liver, of course, reverses completely the position of the abdominal viscera of the right child; indeed the abdominal contents and the diaphragm are so placed that they may be best understood by conceiving the viscera of one child reflected in a mirror to form the viscera of the other.

In the thorax a double set of lungs are seen with only one heart common to both children. This to a certain extent is double but very imperfectly so. There is one large auracular cavity on either side common to both right ventricles, the opening between their cavities is furnished with a valve, also common to both. From the right ventricle of the left side springs a pulmonary artery, but no similar vessel arises from the right side. The superior venæ cavæ of both children empty themselves into a common right auricle. The latter cavity again communicates with a *common* left auricle by an enormous foramen ovale unprovided with any valve. Into this common left auricle one pulmonary vein from each child opens. The left auricle communicates with two separate left ventricles. Indeed, there appears to be one common opening between all the cavities of the heart, and the blood must have flowed through them in every direction. From each left ventricle arises a perfect aorta. On the left side communicating with the pulmonary artery by the ductus arteriorus. On the right side the ductus arteriorus forms the pulmonary artery, and is continued to the lungs of the right child. There is a thymus gland common to both children. This monster is said to have lived for 3 or 4 hours after birth, but it is difficult to conceive this possible. The arrangement of the heart was such that it would seem the creature must have been instantaneously asphyxiated as soon as respiration became necessary.

THE SUB-COMMITTEE'S REPORT ON THE PLANTS, PRESENTED TO THE MEDICAL AND PHYSICAL SOCIETY BY LORD AUCKLAND.

It will be perceived that at the last meeting of the Medical and Physical Society, the Sub-Committee appointed to receive the plants which had been forwarded to the Society by direction of Lord Auckland, and

report upon their value, were censured by Dr. MacCleland for their apparent indifference and supposed want of botanical knowledge, now if Dr. MacCleland had taken the proper and usual course on the occasion, and called for the proceedings of the Sub-Committee, he would have found that it had leaned upon the judgment of no other person beyond their own body, neither had they stood in need of the advice of the gentlemen of botanical celebrity alluded to by Dr. MacCleland.

The Committee availed themselves of the use of the Botanical Garden under Dr. Wallich, and of that gentleman's known zeal and talents for their preservation and final distribution. To have done less than this or to have done more, would have probably subjected the Sub-Committee to the comments and censures, which Dr. MacCleland will be the first to regret they have been made when he is put in possession of the following, which is a copy of their report. It was drawn up by Dr. O'Shaughnessy in perfect accordance with the view of the nature of the plants, which we had declared before we had the honor of being nominated a member of the sub-committee.

TO JOHN MASTER, ESQ.

BOTANICAL GARDEN, CALCUTTA.

Sir,—I have the honour to enclose you a copy of a resolution passed by the Medical and Physical Society of Calcutta at their Meeting of the 2d instant, and in compliance with the directions of the sub-committee to submit to your consideration the subjoined remarks on the subject of your letter of the 19th March.

Of the plants enumerated in the list you have forwarded, the following are alone likely to prove beneficial in medical practice.

Smilax Sarsaparilla
Guaiacum officinale.
Pastinaca opoponax
Dorstenia contrayerva
Quassia amara
Pistacia Terebinthus
———Lentiscus
Laurus Benzoin
Juniperus Sabina
AlamandaCathartica and seeds of
Atropa Belladonna.

On each of these plants I am directed to offer the annexed remarks.

For the *Smilax Sarsaparilla* we are possessed of two very good substitutes, chiefly obtainable in the native Bazars, viz. the *Periploca Indica* and the *Smilax China*, The Perip: Ind: is indigenous along the Coromandel Coast. The Smilax China though imported from China and the straits, grows in Upper India. The true Sarsaparilla would nevertheless be a great accession to our Indian Pharmacopœia. The committee believe its cultivation would prove successful, and that the experiment might be safely tried in the Botanical Garden.

For the Guaiacum, off: no good substitute exists. It is most likely to succeed at Hazareebhag; but its growth is so slow that many years must elapse ere its introduction can prove of general utility.

The Pastinaca Opoponax is now seldom or never prescribed, but it would doubtless thrive well even in the lower districts of Bengal.

For the Dorstenia Contrayerva many vegetables indigenous in Bengal and the adjacent territories may be advantageously substituted. The *Aristolochia Indica* for instance, is possessed of nearly as great virtues as the Dorstenia,and is likely to succeed in Bengal.

The Quassia Amara though scarcely of superior efficacy to the Gentiana Chirayta of Bengal, is still well worth cultivation, and will probably thrive here.

Though the Pistacia Terebinthus affords a fragrant resinous liquid, it is scarcely if at all used in medicine, its chief employment being for a dentifrice among the Turkish and Persian Ladies. It would probably do well here. The *Pistacia Lentiscus* is (or recently was) growing in the Botanical Garden of Calcutta. From the extensive use of *mastic* in the arts and for domestic purposes in India, its cultivation should be warmly encouraged.

The *Laurus Benzoin* answers well in India. Its products are largely and cheaply imported from the straits: it was not long since growing in the Botanical Garden of Calcutta.

The *Juniperus Sabina* would be an important addition to the Indian materia medica. It requires a warm sheltered valley, and would probably find a suitable place near Hazareebhag.

The *Alamanda Cathartica* is a well known and cheap Bazar remedy of considerable value, especially in native practice.

The *Atropa Belladonna* requires a milder climate than Bengal, but would perhaps answer at Hazareebhag. It would be well to send a portion of the seeds there for trial and some to Dr. Falconer at Saharunpore.

The plant would certainly flourish in the Mysore territory. The Committee would deem its introduction a great public benefit, owing to the inestimable value of its extract and the difficulty of obtaining it from Europe in a state of sufficient preservation.

The other plants you have mentioned being either of no medicinal value or exclusively commercial interest, the Committee are unwilling to obtrude any observations as to their habits or applications. Of the *Vanilla Aromatica* alone they would venture to observe, that the great consumption of this fine aromatic in Europe, renders its cultivation in Bengal a matter of much importance. The Committee think the attempt will very probably succeed. The Vanilla Arom. grows spontaneously in Venezuela, new Grenada, Peru and Cuba; and is cultivated in many other places, the Mauritius for instance. Stormy, hot, moist, and sultry climates and situations suit it best. A very inferior Vanilla is produced in upper India and bad as it is, is in such repute and demand there, as to hold out much encouragement to the attempt to introduce the true species. By the Steam-boat going to the upper provinces it might be sent to Saharunpore in the proper season, and under proper charge, of an apprentice perhaps from the Botanical Garden.

The committee in conclusion believe, that considering the season of the year and all the circumstances above detailed, the plants should be taken charge of in the Botanical Garden. The committee look forward with much satisfaction to the probability of Dr. Wallich's speedy return to Calcutta. His Excellency the Governor General will then be enabled to avail himself of the most distinguished authority in India on all these important subjects.

I am Sir, your obedient servant,

W. B. O'Shaughnessy for

Drs. Corbyn, Stewart and Self.

MEDICAL FUND.

We have received several letters from our professional brethren on the subject of the Medical Fund. We trust that those of our friends who may have expected private letters in return, will kindly take into consideration the pressure of our various duties, and consent to receive this notice as a reply to their several communications.

The fund we rejoice to say is now permanently established. The managing committee have had several meetings, and having appointed our valued and able friend Mr. Pearson as Secretary in the room of his worthy predecessor Mr. Mercer; subscribers may expect business to be transacted with zeal, tact, and success. The committee of management in addition to other measures, connected with calculation and the regulation of the fund, solicited and obtained the co-operation and advice of Dr. Bannister of the Madras medical establishment, a gentleman, who, besides being thoroughly acquainted with the principles on which annuity Funds are brought to act, is practically informed in regard to the defects and excellences of the Madras Medical Fund, of which he has been an active member.

We can now state that Dr. Bannister is of opinion, that if the whole of the members of this service subscribe, the minimum rates of subscription laid down in the regulations it will suffice: but if this proportion of subscribers are not obtained, we must, as a matter of course, call upon subscribers for the maximum rates.

Such being unquestionably the state of the case, we know we shall not appeal in vain to every professional brother to unite in equalizing the demand, when the advantage to be derived from the rapidity of promotion is not for the gain of the few, but for the benefit of all.

There is no one better acquainted than ourselves, with the pecuniary difficulties which restrain the power, not the will of many—very great many of our worthy brethren. We have repeatedly urged this fact upon the attention of our colleagues in the management, and we are glad to be able to communicate, that every allowance and indulgence will be made in such instances. It was on the strength of this knowledge that it was desirable to select a secretary from among our own body, with whom the members of the service could correspond confidently and freely, and it was on this account that some of the members of the management were induced to nominate Mr. Pearson, who, from his recent connection with the Medical Journal is so universally known for his zeal in the cause of Medical Science, which zeal will now be

displayed if he be permanently elected in the cause of the fund. We have no doubt if the service respond to the call made by the Committee of management to pay up arrears without delay, that twelve annuities will be offered this year, we have however even now means sufficient to offer six. We are therefore happy in being able to apprize the senior members who are preparing to retire that they may soon expect to hear officially from the Committee.

STAFF SALARY TO REGIMENTAL MEDICAL STAFF.

An address to the Government is in circulation for signatures, shewing the hardship of Regimental Medical Staff losing the whole staff salary during leave, while other Regimental Staff and all General Staff continue to receive a moiety.

IS THE BOON GRANTED TO THE MILITARY TO BE EXTENDED TO MEDICAL MEN?

This is a question which has been put to us: all that we have to say in reply is, that we have made particular enquiries and the result is, that the Court of Directors have not made the least allusion to their Medical servants. Our opinion is, that an application signed by the whole service should be made without delay to the Court for a similar indulgence. Surely the bare mention that Surgeons of 31 years service are now on the list, who to retire in that grade, would only receive a Captain's pension, would be sufficient to shew the Court the justice of the claim. We shall not fail to exert ourselves to get up the petition.

SUPERINTENDING SURGEON CAMPBELL AND DR. JAMES HALL.

We hear on very good authority, that it is not the intention of Dr. Campbell to return to India, and unless Dr. Hall lands very shortly, we conclude this gentleman also must have made up his mind to resign for we do not perceive any extension of leave granted to him by the overland despatches.

CURATOR'S DEPARTMENT, MEDICAL COLLEGE.

This department, under the ingenious and indefatigable exertions of Mr. Evans, is beginning to excite considerable interest in the minds of all who are in the habit of perambulating the several apartments of the medical College. Preparations of morbid anatomy are daily on the increase, and are admirably arranged. We again invite our professional brethren to add to the stock. We are authorized by Mr. Evans to say, that he would be happy to receive morbid or other specimens, unprepared; and we are satisfied that he will do his utmost to set them up in a manner worthy of the donors. We would recommend our professional brethren to address Mr. Evans direct, No. 17, Chowringhee.

MR. BRETT.

We are glad of an opportunity to welcome our celebrated brother Mr. Brett to the Presidency. Need we intimate that should public Hospitals be established here for the reception of the poor, the Government by appointing Mr. Brett to the charge of one of them, will have selected a very experienced and successful operator.

We are aware that there are some who will disapprove of this great praise of Mr. Brett, and set it down as puffing off our professional brother. But in the honest discharge of our bounden duty to bring to the notice of Government the talents and merits of members of the service we are regardless of the unmerited reproach to which we subject ourselves.

FEVER HOSPITAL COMMITTEE.

We rejoice to see by the proceedings of this committee that the rights of the sick poor are no longer to be disregarded. But we regret that the committee's letter to Lord Auckland alludes to a book for circulation among Europeans for subscriptions from which we fear the committee, instead of coming forward with decisive measures of local taxation, we shall have a strange law enacted, part of which will consist of voluntary donations, and part will be

legal exaction. Such an unheard-of compound we imagine could scarcely be conceived. We again repeat that the law not only regards life and member but protects every man, in the enjoyment of them, and furnishes him with every thing necessary for his support in health and sickness; for there is no man so indigent or wretched according to British law but may demand a supply for all the necessaries of life from the more opulent part of the community by means of the several statutes enacted for the relief of the poor.

MEDICAL COLLEGE.

Considering the great importance of the Medical College to the enlightenment and civilization of India, it is with no common feeling of gratification we announce that the Court of Directors have given their unqualified assent to this institution on its present foundation.

GENERAL ORDERS.

Promotions.—Feb. 1836, M. W. Kenny, to be Surgeon of the forces M. R. Burke, to be Asst. Surg. to the Forces March 18. Asst. Surg. Forster, to be Surg. 12th Light Dragoon Ap. Staff Surg. Milace, to be Surg. June 20, admitted on the Establishment Asst. Surg Geo. Dodgiar and Robert Marshall, M. D., MADRAS EST. June 3, Surg. J. White, to be Superintending Surg. Dr. Dempster to be Surgeon M. 62 foot.

Appointments. June 20, Asst. Surgeon F. H. Brett, 2d Asst.-Surg Garrison Fort William to officiate June 22, Asst. Surg. J. Baker, to take charge Salt Agency Balloah June 4, Madras Establishment Surg H. J. Fleming, M D. to be medical store keeper.

Removals. June 1, Asst. Surg. W. B. Davies to charge of Artillery detachment. Asst. Apoth. F. O'Sallion, Hopital Steward, and Maycock to Do, June 3, Madras Establishment, Sup. Surg. W. Haines to Mysore Division. Asst. Surgs. J. W. C. MacDonald, and J. Gordon, the former to H. M. 39th the latter to H. M. 63rd foot.

Leave of Absence. June 13, Asst. Surg. A. Gilmore, M. D. three weeks P. A.

March 20, In extension six months Sup. G. G. Campbell, Asst. Surg. J. J. Sullivan, ditto Madras Establishment. June 4, Asst. Surg. H Cheape to Europe, M. D.

NOTICE TO CORRESPONDENTS.

The following communications shall appear next month.

Sketch of Joshua Brookes.

On the discovery of a thin muscular expansion, occupying the membrana corona ciliaris, by P. F. W. Baddeley Esq.

A Singular case of cerebral derangement by E. F. Downes Esq. M. D.

Cases of Leprosy successfully treated with Iodine, by R. Stuart, Esq.

Dr. Dunbar's valuable communication shall have early insertion.

It is with great pleasure we announce to our readers that, "Scotus" is again in the field: his next sketches will be of, "The two Drs. Andrew Duncan."

We have received the Section II. Guthrie's Observations on Intellectual and Corporeal Action.

We beg to acknowledge the receipt of our valued correspondent Mr. Baddeley's communication, being "an Enquiry into the function and connection of the internal layer of the retina, or membrana Jacobi," with numerous drawings. We shall have the latter immediately put into the hands of our Lithographer.

We have received the following and regret that it should have arrived too late for our present number, it shall appear in our next, viz. "An account of a man who submitted to be buried for a month, at Jarsalmer, (on the confines of the great desert) and was dug out alive at the expiration of that period, communicated by H. M. Tweddell, Esq. from information obtained on the spot by Lieut. A. H. Boileau of the Engineers 1st Assistant Grand Trigonometrical survey."

The following communications have just been received, viz. Dr. MacKinnon's letter on the subject of Native Hospitals.

Dr. Dempster Surgeon 4th Battalion Artillery, on "the lodgment of numerous live maggots within the cavity of the nose of a European soldier, accompanied by sloughing of the Palate, &c. &c.

Case of snake bite successfully treated by W. G. Rose, Esq.

Hospital practice 2nd or Queen's Royal Regiment by R. H. Hunter, Esq.

Mr. Baddelley's "account of a newly discovered muscle in the eye, and manner in which the canal of Petit is formed.

Mr. Dunbar in continuation of his observations on the Topography of Doranda Chota Nagpore.

From Dr. MacDonald with an enclosure; his directions shall be strictly observed. The subject of the last paragraph of his letter is explained in our notice to correspondents in the Journal of Science, &c.

From Dr. Spencer, with enclosure. The cause of the delay of which he so justly complains, is the irregularity of the sailing of the steamers; we hope something may yet be done to facilitate the distribution by Dâk and lessen the expenses of our Journal, by the intended modification of Post office regulations; we shall once more address the Government on the subject.

From Dr. Dickson with enclosures; his directions shall be attended to.

From H. Clarke, Esq. with enclosure.

We hear from a valued friend that our Journal to Nusseerabad by Dâk amounts to 1 R. 2, ans. whereas it goes as far as Allahabad by steam, the amount of Postage should only be 9 annas. We will write to our agent at Allahabad on the subject.

Our worthy correspondent who recommends important articles on geology will find his wishes complied with in our August number of Journal of Science.

*** To avoid double postage and the disagreeable necessity of having their copies returned to us, we shall feel obliged if our subscribers will immediately on a change of residence inform us of their new address.

THE INDIA JOURNAL

OF

MEDICAL AND PHYSICAL SCIENCE.

VOL. III. OLD SERIES.] AUGUST 1, 1836. [VOL. I. NEW SERIES. NO. VIII.

SKETCH

OF

JOSHUA BROOKES, ESQUIRE.

Professor of Anatomy, London.

Shade of Joshua Brookes!—and is there not one to do thee service!—not one man in this portion of the Globe to stand forth, and expatiate for a moment on thy many virtues:—thy glorious perfection as a profound Anatomist—a patient investigator, a lover of truth, an admirer of nature, and all her wonderful contrivances, in the most elaborate and diligent search, after which, the better part of thy lengthened existence was given, nay exhausted, "drained to the dregs," without any of those bountiful reversals of fortune which opportunely and happily befal most men in these days, possessing only a tithe of thy acquirements and acumen. Shall Scotus and Edinensis charm us with their eulogies on living worthies, the ornaments of their own peculiar homes, and, may I not speak of my once honored preceptor, whose memory as a most learned and profound teacher of science is still revered by many others, who, in days of yore, were wont to listen to the practical wisdom that issued from those lips!—some of whom are now inhabitants of this, and other even of more distant lands.

The first time I saw Joshua Brookes was on a chilly afternoon in the spring of 1818, when I waited on him to enter for the ensuing course of his lectures: it being more suitable to my opportunities to commence the study of Anatomy at that season. I entered as perpetual pupil and promised on parting to attend punctually on the day fixed for the commencement of the course, and I mention this otherwise trifling fact, because, I remember to this hour, his peculiar and kind manner, polished with quaintness, if I might apply such a term, in urging me to commence at the end of a good work: for. although, said he, there may be much inculcated which you will not at first comprehend, yet you will find it to facilitate subsequent labour;—shewing the same ardent zeal and kindness, which he never failed to evince towards all his pupils.

I attended his Lectures off and on for two year's, and found even to the last improvement and gratification;—his mode of lecturing was succint and confined expressly to the subject, save a happy illustration to add weight to his discourse; or a case in point to prove the truth of his doctrine. Mr. Brookes possessed not manners calculated to secure popularity, perhaps he was the least studious of all his contemporaries in this worldly and modern essential to successful reputation and pecuniary advantages; he had not studied the needful art and appliances of address to encounter the prejudices of the world; and perhaps he sought less of private practice than any man of his known acquirements of his time, his powerful mind was devoted to the study and illustration of Anatomy and Zoology.

It was a well known fact in those days that Mr. B. was regarded with jealousy by the Junto of Lincoln's Inn Fields, and it was a commonly credited belief among the students that their examinations would be the more rigorous that their preceptor had had the temerity to be an independent renegade from their self constituted laws, and for which eventually they had the anxiety to exclude this man from the advantages and honors of the College Council: a man, who, at the period to which I allude, was the first Professor of Anatomy in the Metropolis; and by his own statement, had dissected more bodies than any man living; not excepting the great Camphor himself, who regaled his Brother in Science, when in London, at breakfast, with the teeth of Rats, Mice and Deer, served up in dishes made out of the rock of Gibralter, which the professor had shortly before explored.

But, "look here upon this picture, then on this," and, when it is seen subsequently that this meritorious person was per-

mitted to fall into the " scar and yellow leaf" of adversity, and advanced age: compelled at length by these dire necesities, aided by broken health and spirit to relinquish the prosecution of his avocations as a Lecturer—that this same Joshua Brookes was yet persecuted, because his independence and honorable feelings had not withered in proportion to his wordly prospects, and for this he was still excluded from office in the College, which his name and presence would have honored ! Should there be a sceptic on these points, let him turn to the evidence of Mr. Carpue, given before the Parliamentary Committee, as detailed in the *Lancet*. They manage these things better in France, and he who by the searching test of the concour could have contested the highest prize, with the most foremost men of the age, was left, not a suppliant, but an object of the implacable and unjustifiable wrath of a faction ; some of whom, forsooth falsely named examiners, were scarce fitted to encounter his rudiments.

Observe the mind and ardour of that man, who by his own unaided efforts and deep love of science, amassed a Museum of surpassing beauty and excellence, stored with the hitherto hidden treasures of the animal world. I know of no other individual in England that has enriched the world of comparative Anatomy in a greater degree ; except John Hunter, his Master whose principles and zeal he had imbibed. It is perhaps consolitary in some measure that few men live in these days to do themselves less service than Joshua Brookes ; for in searching after hidden treasures, he forgot in the alluring and delightful fields of Zoology, that sordid element, which can charm only the world ; in short. he was a " Martyr Anatomist ;" better fitted by his comprehensive mind, and habits of persevering assiduity, let me add too, his eminence, for the atmosphere of another counr tywhere spirits congenial to his own are exempt from such rude shocks. Had he lived in the French Capital his zeal and attainments would have met with the reward they so justly merited, but alas ! he lived to be deserted at his utmost need by mediocres !

Do I address a fellow pupil ? perchance some one may read this page, who will not be displeased with the reminiscence : more than one I know of in this distant land, my friends, and our friendship commenced in J. B.'s class room : to them I would willingly appeal; and who that was his pupil can forget his mode of lecturing, the skilful simplicity with which, free from rhetoric and false reasonings he pronounced his descriptive Anatomy on the subject : a while some happy illustrations is adduced to impart interest to the monotony of his task, gathered perhaps from Sabatier or Desault, or his own great master and prototype John Hunter, in whose words, if beguiled into a rather long digression, he would exclaim : " ad rem," and thus recal attention to his labors.

During my sojourn in the Metropolis I attended an occasional Lecture of other Anatomists ; but the mode and matter of any other Lecturer had not the same vivid attractions to my mind ; and I have heard that some of the more popular teachers, as well as " Eminent" of the College, regarded the apparent abstruse perspicuity and minuteness of Mr. Brookes, as a useless refinement, a mere elaboration of terms without an adequate practical result ; but, I believe such of his pupils found it otherwise, who bent their minds, to the accomplishment of a thorough knowledge of the human subject, and to them, the terms of " Ramus," and " Ramusculus," will still strike pleasantly on the ear.

Another proof of his liberality of mind and genuine love of his profession was remarkable in the terms of commendation and respect with which he introduced in his Lectures the names of his contemporaries. I do not remember ever to have heard him vituperate either the ignorance or pretensions of any professional individual ; his chief aim was to elevate science and mainly by his own example of industry and benevolence, in short, to quote what is written elsewhere of another man endowed with similar qualities of mind, he was remarkable " for the uniform and unshaken integrity of his conduct, for his steady attachment to the interest of the community, and for the vast compass of his understanding which seemed to have a natural affinity with all grand objects."

Vale, Joshua Brookes ! I respect thy memory, and among all the great ones that have departed within the last fifteen years, to that " bourne whence no traveller returns" there is not one whose virtues I can regard with greater veneration.

1*st May*, 1836. M.

ON THE DISCOVERY OF A THIN MUSCULAR EXPANSION OCCUPYING THE MEMBRANA CORONÆ CILIARIS.

By P. F. H. Baddeley, Esq.

[The following important communication is to be followed up by a series of drawings with a more detailed account of the subject,

all of which we have received from our zealous and talented correspondent.]

To the Editor of the India Journal of Medical and Physical Science.

Dear Sir,—I have lately ascertained by the help of a good microscope, the existence of a thin muscular expansion, occupying that portion of the Hyaloid Membranc, usually denominated, Membrana Coronœ ciliaris the fibres of which run in a radiated direction, from the circumference of the lens, as far back as the termination of the internal coat of the Retina.

This expansion is closely adherent internally to the Hyaloid Tunic, while the ciliary processes and Membrana Jacobi invest it externally.

Numerous phenomena connected with the Physiology of the motions of the Iris, which have hitherto produced so much discussion and contrariety of opinion, may perhaps now be decided.

I am at present occupied in finishing a series of drawings, for the purpose of illustrating this structure, which, when completed, shall be forwarded together with a more detailed account.

A medical friend of mine, Mr. Downes, to whom I have repeatedly shown the membranc, is as fully satisfied as I am, of the existence of this coat, and of its resembling in every respect, a muscular structure.

Neemuch, April 21, 1836.

A SINGULAR CASE
OF
CEREBRAL DERANGEMENT,
By E. F. Downes, Esq.

To the Editor of the India Journal of Medical and Physical Science.

Dear Sir,—The following case appears to me very interesting and singular, should you be of the same opinion, it may probably be considered worth a corner in your valuable periodical.

Yours truly,
E. F. Downes.

In the early part of January, 1835, I received a hurried note from Mrs. A., merely telling me, her husband could not speak, and begging my immediate attendance. I hastened to his bungalow; on entering the verandah he met me, his appearance and manner were rather hurried and anxious, he several times attempted to address me, but his articulation was extremely indistinct, and before he could finish a sentence his memory seemed to fail, and he appeared to have forgotten what he wished to say. This circumstance annoyed him for the moment; I asked him if he suffered from pain in his head, he replied no. The pulse was rather quicker and fuller than natural, pupils exceedingly contracted and sluggish. I was unable to obtain any satisfactory replies to my questions and viewing the case as one of cerebral derangement, I opened a vein and quickly abstracted 20 oz. of blood; before the vein was closed, he could articulate perfectly well, the pupils dilated more readily; he was sufficiently collected to relate what he recollected as having occurred half an hour preceding the attack. He perceived a numbness, and slight tingling sensation in the right hand, with loss of muscular power. As he entered the house from the verandah, having a cigar between the fore and middle finger, on attempting to raise his hand to his mouth, the cigar fell from the grasp; it struck him as singular at the moment, in conjunction with the sensation felt in his hand; but it very soon left him, and he had forgotten the circumstance until the second warning; when I was summoned to see him. I prescribed a brisk purgative, sent my patient to bed with a strict injunction to remain quiet till I returned. This was about 10 o'clock A. M. He procured some sleep; afterwards, feeling as he conceived free from complaint, he quitted his bed. Something however, occurred to ruffle his temper; he was again seized with a similar turn of symptoms, difficulty of utterance, loss of memory, making great efforts to speak; if addressed, he replied with much hesitation by Monosyllabic answers, but quite at variance with the questions proposed, I was again sent for; being from home my friend Mr. Baddeley, (having previously learnt from me the nature of the attack) proceeded to his bungalow; he found him in a restless state, walking about from one room to another, as if he had some object in view; when addressed he appeared to understand the nature of the question, but incapable of giving an answer. Perceiving the patient's inability to speak, Mr. B. asked him if he could describe his feelings on paper. He sat down, and took a pen to dip into the ink stand, but his hand being very tremulous, he made several attempts before he succeeded. He was told to address a note to me; he succeeded in writing "My dear" when he commenced with a scrawl, making several attempts to proceed, but threw the pen down, shook his head, and ejaculated no! no! At this juncture (12 o'clock) I reached the house; he then had

a vacant stare, pupils contracted, pulse full and hard. We decided upon opening the temporal artery, blood was drawn to the extent of 16 oz. which afforded great relief; the pupils dilated freely, a purgative of senna and salts with scammony was given, and repeated at intervals until the bowels were most effectually evacuated; a large blister was applied to the back of the neck.

When I visited him in the evening, he was entirely free from the complaint.

After his recovery I asked him regarding his feelings during his illness; he said he recollected perfectly every thing that was said and done, and mentioned several circumstances which assured me that such was the case.

My patient proceeded into the district for change of air, as the compress, applied over the artery gave him some annoyance, he begged to have the bandage removed which was done, ten days after the bleeding when the wound was quite healed. A few days subsequently to this the cicatrix opened; he lost several ounces of blood; the compress was again applied, after a few days it was again taken off, in consequence of his importunity. The part appeared quite sound; a small aneurismal tumour formed immediately behind the cicatrix two days previous to his reaching cantonments it again opened, and several ounces of blood escaped. A rupee was now placed over the swelling, over this a compress, both secured moderately tight by means of a roller. This plan succeeded perfectly.

I may remark, that previously to this attack he had suffered, first from remittent and afterwards from intermittent fever.

Neemuch, March 25, 1836.

LEPER ASYLUM CALCUTTA.
CASES OF LEPROSY.
SUCCESSFULLY TREATED WITH
IODINE.

By R. Stuart, Esq. M. D.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—Feeling confident that any method of treating a disease hitherto considered incurable, by which its symptoms are not only checked, but considerably ameliorated, cannot fail to be highly interesting to the public in general, and especially to that portion of it for whom your journal is particularly intended; I have taken the liberty of forwarding to you four cases of leprosy from the Leper Asylum of Calcutta, for which I prescribed iodine. These cases are not yet completely cured, but the amendment has been so great and so rapid, that I have every reason to anticipate that the use of iodine will be attended with success, and I am thus early anxious to draw the attention of the profession to the subject, in the hope, that induced by the success, partial though it be, which I have met with, they may adopt a similar mode of treatment, and thus under Providence cause the relief experienced by a suffering portion of our fellow creatures, to be more widely extended.

I was induced some weeks ago, by the following simple train of reasoning, to try the effects of iodine in cases of leprosy.

It is the general opinion amongst medical men that in leprosy, all the secretions are in a depraved state—could this state be overcome, and the secretions again rendered healthy? I thought there was every reason to look for a favourable result. In almost every case of this disease which has come under my notice, there has been enlargement of the different parts of the body, and the integuments have been to a greater or less extent, thickened. The first object (rendering the secretion healthy) I thought might be gained by iodine from having frequently witnessed its powerful, almost miraculous tonic qualities, and its power on the absorbent system in the removal of enlargements and tumors is well known to every member of the Profession. I acted upon this principle, and the result will appear by a reference to the cases annexed.

The slow progress of amendment in the symptoms of the first case, when compared with the others, may be accounted for by the fact that the subject on his admission was labouring under febrile symptoms, and had to be treated accordingly. Immediately after these symptoms had subsided, he was attacked with a violent diarrhœa, and after the usual treatment, as he was recovering from it, I commenced with the iodine. The diarrhœa however on different occasions returned, and I had of course to stop the iodine, until he was perfectly cured of it. Independent of this circumstance, as this was the first case of leprosy I have tried with iodine, I have to proceed with care and caution.

There are at present twenty seven patients under this mode of treatment, and they have all derived more or less benefit from it.

I sanguinely hope being enabled ere long to report a favourable result from the use of this medicine.

Case, 1st.—Edoo, Æt. 19, Mussulman, born at Jessore; admitted 11th January 1836.

The integuments covering both the cheek bones are thickened, of a dark red

colour, and perfectly insensible eyebrows, lobes of the ear, and alæ of the nose slightly thickened and insensible. The lower lip, chin, and a portion of the left side of the lower jaw whitish coloured, but the skin not altered in the texture and perfectly sensible. The integuments of neck and trunk quite natural, of upper and lower extremities, dry, glistening, covered with whitish scales, and perfectly devoid of feeling. The whole body appears somewhat swelled. Complains moreover of great pain of joints, and has been labouring under febrile symptoms for some days back.

The white mark on the chin and lower jaw is known among the natives by the name "Soolie," and is not considered by them as any of the species of leprosy, many of them in their younger days have this mark on different parts of their body, which appear and disappear without requiring any medical treatment. Within the last few days two similar marks have appeared on the left cheek, and one on the left eyebrow, but all of them are assuming a darker colour.

Though the thickening and enlargements, which I have described above have existed for the last twelve months, the integuments became devoid of feeling only six months ago. This benumbed state did not shew itself at one and the same time in the different parts where it now exists but occurred in the following order. Those covering the cheek bones became first affected, then those of the upper, and lastly those of the lower extremity.

Says, his father was affected with symptoms somewhat similar to those he labours under, but that on his father's body there were sores, and several of the toes and fingers had dropped off, and that he ultimately died of this disease.

This patient was at first treated with cathartics and antimonials combined; after this sudorifics, and lastly, when the feverish symptoms had quite disappeared, with tincture of iodine. During the time he was taking the cathartics and sudorifics, the enlargements and thickenings of the lobes of the ears, eyebrows, cheeks, alæ of the nose, and indeed of the whole body became very much diminished, but it was not till he had been taking the iodine for some days, that the swellings were completely removed from every part of the body the dark red colour of the cheeks began to disappear, and sensation to return to the different portions of the integuments, which were at his admission into hospital, perfectly devoid of feeling as before stated.

The only symptoms of the disease which this patient now exhibits is a slight reddish colour of a small portion of the integuments of the cheeks, and this is daily becoming less. In those parts which were perfectly devoid of feeling, sensation now exists, and almost to as great an extent, as in the healthy parts. The enlargements and thickenings have quite disappeared. From the circumstance of cathartics and sudorifics having been frequently given and pushed to a great extent without any decided benefit. I am disposed to attribute the great and rapid improvement of the symptoms entirely to the iodine. As, however, this case cannot be strictly considered as having been ameliorated by the use of iodine alone, attention is solicited to the detail of the next case, where nothing but iodine has been given from the time I first prescribed for him, to the present period.

Case, 2d.—Guyram, Æt 42, Hindoo, born in the Bankrah Zillah.

Complains of ulcerations of the nose, lips, and throat, and has had a cough for some time back; he moreover presents the following appearances:—the ears swelled and loaded with encrustations, the bridge of the nose thickened, and internally ulcerated, eyebrows slightly enlarged, malar integuments slightly thickened, and slightly reddish coloured, lips very much swelled, thickened, everted, and internally there are sores. In all these parts has an impaired degree of sensation. The apex and alæ of the nose very much enlarged, thickened, and almost insensible. The integuments of trunk upper and lower extremities covered with small distinct dark purple coloured patches, resembling Purpura Hæmorrhagica. The integuments of neck natural; on both fore arms there are small hard nodes or tumours about half an inch raised above the surface of the skin. Ulcerations on the elbows, the fingers are so swelled that he cannot shut the hands, some of the nails completely destroyed, others partially; at the roots of those nails of which portions still remain, abscesses are forming. On the knee joints, nodes of a similar description to those on the fore arms existed, which suppurated, and on these parts there are now sores. The legs are scaly, glistening, and near the ankles smooth, tight, and shining. The feet and toes swelled, and the skin on the back of feet similar to that of the legs. The soles of the feet, covered with hard dry encrustations, the toe nails are cracked longitudinally and frittering away, at the roots of some, abscesses are forming, the nails of the other toes have dropped off, and in their place sores now exist. Retains sensation over the whole body, but it is considerably impaired.

Says, he has been ill for eight or nine years; that the disease first shewed itself by small white spots appearing over the whole body; after this, the feet became swelled, and sores broke out on the soles; none of his relations have ever been similarly affected.

Was admitted into the Leper Asylum about two years ago, and during this time has been treated with the nitric acid mixture.

On the 16th April, 1836, he commenced taking iodine internally, and applying the urgent hydriod potass to the ears and feet; at present the ears are greatly reduced in size, and almost free from the encrustations with which they were loaded, the thickening of eyebrows, and the thickening and discolouration of the skin covering the cheek bones, quite gone. The swelling of nose greatly diminished; the lips natural, the purple patches over the whole body have assumed a fainter colour; the nodes have quite disappeared from the left fore arm, and on the right a small portion of one or two only remains; the sores over the whole body with the exception of one on the finger of the right hand, and another trifling one of the left heel, have healed up. The swelling of the fingers almost entirely gone. New nails appearing on some of the fingers; the swelling of feet and toes quite gone, and the soles of the feet perfectly free from encrustations. He has also now an increased degree of sensation over the whole body.

Case 3rd.—Kassy, Æt. 28. Hindoo, born in Calcutta. Admitted into Hospital upwards of three years ago.

The eyebrows greatly enlarged, thickened, hanging. The bridge, alœ and apex of the nose, the lobes of the ear, the lips, and chin greatly enlarged and thickened. The cheeks slightly thickened. The hair of the face and eyebrows with the exception of a few of the eyelashes has fallen off. The sensation in the parts just mentioned, exists but to a slight degree. The skin of the chest and back natural in texture, but thickly covered with an eruption of small pimples; here also sensation to a slight extent exists. The skin of the back of the upper arms, dry, smooth glistening, shrivelled, and perfectly devoid of feeling. The back of the fore arms and hands are thickly studded with nodes as large as a moderate sized gooseberry and the skin has become coarse, and perfectly insensible. On the palmer aspect some feeling still exists. The hands and fingers are considerably swelled. He has lost the two first joints of both the limb fingers, the nails are completely destroyed, and where they have dropped off, and also on the integuments of middle and ring fingers of both hands there are sores. The index fingers are permanently curved towards the thumbs. The thighs are studded with purple patches, and also thickly covered with an eruption, and are dry, glistening and scaly. Both the legs have the skin drawn tight round them and appear smooth and shining, the ankles are enormously swelled, and from the skin having become very thick and coarse, and being moreover covered with encrustations, bear a strong resemblance to the corresponding part of an Elephant's foot. The large toe of both feet only remains entire. The feet and remnants of the toes greatly swelled. The skin coarse, thickened and scaling off from a little above the ankles to the toes, the integuments perfectly devoid of feeling.

Says, that when he was seven years of age, a white mark about the size of a rupee shewed itself on the inside of the left thigh, and the skin of the discoloured portion became insensible but no alteration in its texture. This disappeared, and the part recovered its sensation. After this, small white marks exactly similar to the one just described appeared on the chest, from here also they after a time disappeared, and his ears swelled. After this sores broke out upon his feet and then the rest of the body became affected. None of his relations have ever been similarly affected.

This man has been in the Leper Asylum upwards of three years, and has been treated with madar powder and afterwards with nitric acid. His symptoms have gradually but slowly increased.

On the 18th April, 1836, he commenced taking the iodine. The swellings and enlargements of the different parts of the face are now considerably diminished. The index fingers are almost straight, the nodes upon the arms and hands almost gone. The ankles reduced to half the size and the skin of feet and ankles assumed a more natural appearance.

Case 4th.—Sarah Frederick Æt. 50. native of Madras

Has over the lower part of the left arm and the outer side of the elbow of same arm, as also over the right wrist a slight brownish discolouration of the integuments. The skin at these places being shrivelled and perfectly insensible. In other respects quite well; has had these marks for the last three years; none of her relations have ever been similarly affected.

Has been in Hospital upwards of a year and has been treated with the nitric acid, but says, that the discolouration is extending.

On the 21st April commenced taking the the iodine. Sensibility is perfectly restored to the discoloured parts, and the colour now is almost natural.

Leper Asylum, May 9, 1836.

ACCOUNT OF A MAN WHO SUBMITTED TO BE BURIED ALIVE FOR A MONTH, AT JAISULMER, AND WAS DUG OUT ALIVE AT THE EXPIRATION OF THAT PERIOD.—Communicated By H. M. Twedell, Esq.

To the Editor of the India Journal of Medical and Physical Science.

Philosophers, ancient and modern, have agreed, that the improbability of an act is not to be taken as a conclusive argument against its possibility. So far as we are enabled to distinguish, there are no fixed bounds to man's ingenuity, or artifice. Circumstances which appear strange and unaccountable in the eyes of the wise men of the present day, may be familiar to the comprehension of those forth-coming Philosophers, the F. R. S.—s and A. S. S—s of the 20th and 21st Centuries. The exploits of the salamander lady, La, Sonat; —of the Fire King, of Lancet notoriety, of the woman who exhibited on the stage, supporting the weight of a huge anvil on her chest whilst a horse-shoe was forged; of those, Epicureans par excellence, who make their mouth a receptacle for molten lead, boiling oil, live goats, and such like diableries; and of those wholesale digesters of opium, corrosive, sublimate, prussic acid, and other anti-hygyistical substances; the exploits of those, and of other martyrs of notoriety, whose "delusive arts are familiar to the reader's memory, may appear as mere bagatelles in comparison with the superior accomplishments of the hungry Charlatans of our intellectual posterity. Even the account furnished in this paper, which to us appears so extraordinary, may be only interesting to future Philosophers, as the first of a series; as the first well authenticated record of man's power over animal life; shewing, that air, food, and water, are not so entirely necessary to sustain existence, as our simple Physiologists hitherto have instructed us to believe; that, to consign a body alive to the silent tomb, is not (to a proficient in the art of double tongueing) that fearful, fatal punishment, which the Romans believed it to be, when they held it, *in terrorem*, over the heads of their vestal virgins, and which, we, in equal ignorance, still have thought to be so frightful and appalling; and that man may betake himself to the solitude of the grave, and pass away a month or so, as comfortably as the Canadian bear in the trunk of a tree, if assured, that some friendly hand armed with a good pick-axe or shovel, will be exerted to waken him from his reverie, at the appointed hour.

The facts and circumstances which are detailed in this account, were communicated to me, within these few days, by a Gentleman, from whom I obtained permision to make them public. For the sake of greater accuracy, he consented to my taking a copy of a letter written by him, to his family on the day that the grave was opened, and the buried man resuscitated. That letter I have his permission to publish.

I have just witnessed a singular circumstance, of which I had heard during our stay at this place, but said nothing about it before the time for its accomplishment not being completed: this morning, however, the full month was over, and a man who had been buried all that time, on the bank of a tank near our camp, was dug out alive, in the presence of *Esur Lal*, one of the Ministers of the Muharáwul of Jaisulmer, on whose account, this singular individual was voluntarily entered a month ago. He is a youngish man, about 30 years of age, and his native village is within 5 kos of Kurnaul; but he generally travels about the Country to Ajmeer, Kotah, Endor, &c. and allows himself to be buried for weeks, or months, by any person who will pay him handsomely for the same. In the present instance, the Ràwul put this singular body in requisition, under the hope of obtaining an heir to his throne, and whether the remedy is efficacious or not, it certainly deserves to be known.

The man is said, by long practice, to have acquired the art of holding his breath by shutting the mouth, and stopping the interior opening of the nostrils with his tongue; he also abstains from solid food for some days previous to his interment, so that he may not be inconvenienced by the contents of his stomach, while put up in his narrow grave; and moreover, he is sewn up in a bag of cloth, and the cell is lined with masonry, and floored with cloth, that the white ants and other insects may not easily be able to molest him. The place in which he was buried at Jaisulmer, is a small building about 12 feet by 8 feet, built of stone; and in the floor was a hole about three feet long, two and a half feet wide, and the same depth, or perhaps a yard deep, in which he was placed in a sitting posture, sewed up in his shroud, with his feet* turned inwards towards the stomach, and his hands also pointed inwards towards the chest. Two heavy slabs

* Query feet, the word as used in that part of India, is gor, and means foot or Leg.

of stone, 5 or 6 feet long, several inches thick, and broad enough to cover the mouth of the grave, so that he could not escape, were then placed over him, and I believe a little earth was plastered over the whole, so as to make the surface of the grave smooth and compact. The door of the house was also built up, and people placed outside, that no tricks might be played, nor deception practised. At the expiration of a full month, that is to say, this morning, the walling up of the door was broken, and the buried man dug out of the grave. Trevelyan's moonshee only running there in time to see the ripping open of the bag in which, the man had been enclosed. He was taken out in a perfectly senseless state, his eyes closed, his hands cramped and powerless ; his stomach shrunk very much ; and his teeth jammed so fast together, that they were forced to open his mouth, with an iron instrument to pour a little water down his throat. He gradually recovered his senses, and the use of his limbs, and when we went to see him, was sitting up, supported by two men, and conversed with us in a low, gentle tone of voice, saying, " that we might bury him again for a twelve month if we pleased". He told Major Spiers at Ajmeer, of his powers, and was laughed at as an impostor ; but Cornet Macnaghten put his abstinence to the test at Pokhur, by suspending him for thirteen days, shut up in a wooden chest, which, he says, is better than being buried under ground, because the box, when hung from the cieling is open to inspection, on all sides, and the white ants, &c. can be easier prevented from getting at his body, while he thus remains in a state of insensibility. His powers of abstinence must be wonderful to enable him to do without food for so long a time, nor does his hair grow during the time he remains buried.

I really believe that there is no imposture in the case, and that the whole proceeding is actually conducted in the way mentioned above.

This letter was written by Lieut. A H. Boileau of the Engineers, first assistant Great Trigonometrical survey, who at that time was employed in the survey of that part of the country. The Gentlemen whose names are mentioned in the letter, are Captain Trevelyan of the Bombay Artillery, and Cornet, now Lieut. Macnaghten, of the 5th Regiment Light Cavalry, assistant to the agent to the Governor General in Rajpootanah.

Some other information I obtained in the course of conversation with Lieut. Boileau, and which I noted down. Lieut. Boileau was unacquainted with the man's name or cast; he believed that he had taken up the life of a Fukeer he understood that the man had been buried six or seven times, but whether for any period longer than a month, he knew not; he did not hear, how the man discovered his powers, or when he commenced to practise them. Lieut. Boileau arrived at Jaisulmer, after the interment, and saw the place, described in his letter, in which the man was buried. There was a guard of 4 or 5 Chuprasees, in the employ of the maharáwul, as he understood, who were on the watch to prevent any interference or imposition. The process of burying, and of disinterring, was conducted in the presence of Esur Loll, one of the ministers of muharáwul. The day fixed for the disinterment was known to Lieut. Boileau but not the exact hour. Captain Trevelyan's moonshee, who had set forth to give intelligence when operations were to be commenced, arrived only in time to see the people ripping open the cloth, or shroud, in which he had been enclosed. The Moonshee immediately started off a man to inform his master and Lieut. Boileau, who were in their tents, at a distance of about three furlongs.

They waited a few seconds to apprize Lieut. Mackeson of the 14 Regt. N. I. British Agent for the navigation of the Indus, (who was disinclined to accompany them) and repaired to the spot as quickly as possible. Perhaps a quarter of an hour had elapsed, since the opening of the grave, before they arrived. The people had thrown a clean cloth over the man two of them supported him ; he presented an appearance of extreme emaciation and debility ; but weak as he was, his spirit was good, and his confidence in his powers unabated, as in answer to Lieut. Boileau's and Captain Trevelyan's enquiries, he said " *that we might bury him again for a twelve month if we pleased*, Lieut. Boileau examined, and measured with his walking stick, the grave in the floor of the chamber in which the man had been buried, and also the two slabs of stone which had been used to cover the mouth of the grave. For seven or eight days preceding the burial, the man lived entirely upon milk, regulating the quantity so as to sustain life, whilst nothing remained to give employment to the excretory organs. In that state he was buried. He confesses to have great dread of the white ants. Several folds of cloth were spread on the bottom of the grave, to protect him from their attacks. On taking nourishment after his release, he is said to be in a state of anxiety, until he has ascertained that the powers of his stomach, and intestines, are not impaired, Lieut. Boileau saw nothing more of the man, he understood that he regained his strength, and was for some time in attendance at the durbar of the

Muharáwul, in the hope of receiving his promised reward, and that tired of waiting until the purse strings of his Patron were loosened, he had stolen a Camel, and decamped.

As this account presents facts so opposite to our received notions of the phœnomena of Life, it is to be hoped, that those who have it in their power to furnish further information on the subject, will not hesitate to do so. A communication from Lieut. McNaghten, under whose observation the Fukeer was suspended in a box for thirteen days is particularly desired, also, from Captain Trevelyan's recollections, of the matter some interesting facts might be gleaned. Scarcely thirteen months have elapsed, since the report of the man's flight from the court of the Muharàwul, reached Lieutenant Boileau. It is therefore probable, that he is still alive, and if assured of meeting with a better paymaster than his late patron, that he may be induced to furnish the opportunity for taking a minute and accurate account of his method of operations.

Until further information is obtained, it might be thought precipitate to theorize on the probable means, by which, this strange being maintains the mastery over the functions of life. Yet there is one paragraph in Lieutenant Boileau's letter, bearing on this point, on which some remarks are admissible. The paragraph alluded to, runs thus.

"The man is said, by long practice, to have acquired the art of holding his breath by shutting the mouth, and stopping the interior opening of the nostrils with his tongue. If this be the case, it is supposed that he exerts this power as soon as he finds himself comfortably settled in his grave, before the small quantity of vital air with which he is surrounded, is deteriorated. To force the tongue into the pharynx, and to retain it there, until respiration is suspended it is requisite that the jaws should be closely united. In Lieut. Boileau's letter, it is mentioned that "his teeth were jammed so fast together, that they were forced to open his mouth with an iron instrument. Of the state of his tongue, nothing was remarked. It is now well known that the slaves in south America, exert this power of the tongue to obstruct respiration, and occasion death.*

In the last number of the Quarterly Review, which has been received in India (for Dec. 1835) there is an article on the foreign slave trade, in which the following passage from "notices of Brazil in 1828-1829, by the Rev. R. Walsh L. L. D. is quoted. "The wretched slave often anticipates the result, by inflicting death upon himself in an extraordinary manner. They have a method of burying their tongue in the throat, in such a way, as to produce suffocation. A friend of mine was passing when a slave was tied up and flogged, after a few lashes, he hung his head, appearing lifeless; and when taken down, he was actually dead; and his tongue found wedged in the sophagus, so as completely to close the trachea. From this it appears, that the slave who by this action of his tongue, provokes death, hitherto, has been supposed to be dead, and after a superficial examination(and in many instances, perhaps, no examination at all) his body has been consigned to the grave.

The idea that life was only suspended, and was recoverable by artificial means, if it ever entered the imagination of the party most interested, the slave owner, cannot have led to a favorable result, or the practice itself would have been discontinued; hence for the sake of humanity, putting all feeling of curiosity out of the question, it is desireable, that accurate information should be obtained on the means by which the un-dying fukeer, the subject of this account, succeeds in retaining the principles of life under circumstances which present such physical objections to its existence. If the man be alive, the assurance of a proportionate reward may induce him to disclose his mode of action. To prove his honesty, he might be confined for a short time, in a comfortable box, lined with baize, and fitted with glass doors, by which his proceedings could be accurately observed, and compared with his disclosures. In the meantime, it may be supposed that the public notice of his extraordinary powers will attract the attention of physiologists in both hemispheres, and more particularly of the Brazilian slave owner. The hint thus conveyed, that in cases of suffocation by the tongue, death may be simulated, and that life may be restored by the means usually employed in cases of suspended animation, will not be thrown away upon the latter. That the wretched slave who may be balked in his efforts to obtain in an easy death, a release from his misery, will be grateful for the information, is not to be expected; unless indeed, his master from motives of self interest is induced, or by the arm of authority is compelled, for the future to extend to his helpless victim, the kindly feelings of humanity.

Bancoorah, June 8, 1836.

* There is a case published by Dr. Cheyne, in the Philosophical transaction" I believe, of a man who had the power of suspending his animal functions—and who performed the experiment *once too often* – death, whose presence he had simulated so admirably, charmed him in good earnest. Can Mr. Corbyn* put his hand on this case.?

* We will endeavour to comply with our correspondents request and insert the case in our next. – Edit.

MALIGNANT TUMOUR OF THE UPPER EYELID.

By P. Stuart, Esq.
Assistant Surgeon, Baroda.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—A *Koonby* from a neighbouring village applied to me for relief, on account of a tumour, which he says first made its appearance about six months ago. At first it was small and gave him no trouble, but latterly it ulcerated and encreased so much as entirely to obstruct his vision. It pains him very much when he stoops, and bleeds on the slightest touch; in short it is with great difficulty he can follow his usual occupation in the fields, from the inconvenience it gives him.

On examining the tumour minutely (the accompanying very correct drawing which I am enabled to supply through the kindness of Lieut. B. of the 9th Regt. N. I.) I found it attached by a tough pedicle to the inner surface of the upper eyelid, its outer covering being a production of the conjunction. The ulcerated surface spread out from the pedicle in an irregular, hard, irritable fungus, which bled freely from several points when handled. His general appearance was healthy, he was considerably advanced in years, but nevertheless showed a strong muscular frame, the eyeball healthy and vision perfect, and none of the neighbouring parts showed the slightest mark of disease. I recommended its removal as the speediest and most effectual way of accomplishing a cure, to which he immediately assented. In removing the tumour I divided the external angle of the eyelids to enable me to dessect the root of the tumour with greater freedom. The tumour took its origin by strong fibrous bands, both from the inner and outer canthus, also adhered firmly to the cartilage of the eyelid. It was supplied by innumerable small vessels, which did not require ligatures, but bled profusely and retarded the dissection considerably. After the tumour was removed a pledget of wet lint was applied and secured with a bandage. This in cases of operation, I consider preferable to every other dressing in a hot climate. The tumour when cut into, after its removal showed a number of irregular cells, filled with a dark coloured, soft matter, resembling dark coagulated blood, the cells were formed by tough fibrous bands, which resisted the knife in cutting like cartilage.

After the operation he never had a bad symptom, and was well and discharged in less than a fort-night. He had the use of his eye perfectly and the only observable difference between this and the other eye was that he could not elevate the upper eyelid sufficiently. This man, unlike natives generally, was not only gratified at his recovery, and thankful for the assistance I had given, but used occasionally to show his gratitude and poverty by presenting me with a little milk and a piece of sugar cane. On one of these occasions, six months after the removal of the tumour, he pointed out a small swelling at the angle of the jaw. I was apprehensive of this swelling of the glands being a symptom of a return of the disease, and my fears were soon realized for on my return to camp after a lapse of several months, I received the following account from one of his relations. The disease returned to the eye and shortly eat to the bone, from the socket there grew a tumour which discharged very offensive matter. He was soon reduced to a skeleton and died delirious nearly twelve months after the tumour had been removed. I could not help indulging in the reflection, that what I had done with such apparent success, was the means of hastening rather than retarding the progress of the disease. The exterpation of the tumour; which at the time I had every reason to believe was complete, in all probability only advanced the malignant disease, a march nearer more vital structures, which speedily caused his death.

Baroda, 2d June, 1836.

REVIEW.

Treatise on Diseases of the skin founded on new researches of Pathological Anatomy and Physiology, by P. Rayer, D. M. P. *Translated from the French, by* William B. Dickinson, M. R. C. S., 8vo. p. p. 398. Messrs. Thacker, and Co., Calcutta.

(Continued from page 346.*)*

Diagnosis is a science which can be acquired only by constant attendance at the bed side of the patient: and we are therefore not surprised that the differential diagnosis of cutaneous diseases have not been treated with all the perspicuity desirable in *ex-professo* treatises on these affections: we perceive the same in treatises on most other affections. We agree therefore with our author that herein we discover the source of many errors. Rayer states that Bateman would not have described *eczema* of the ear under the name of *Porrigo*, if he had devoted a separate paragraph to the differential diagnosis of the two diseases. This opinion is just and we submit it as a wholesome piece of advice to modern authors, who, we lament to say, need it greatly. Rayer was led to insist on the differential diagnosis of diseases of the skin, because he conceived it to be a certain mode of ascertaining the individuality of each of them. Rayer's classification un-

Mr. STUART'S CASE

of

Malignant Tumour of the Upper Eyelid

T. Black Asiatic Lith: Press. Calcutta.

questionably removes the difficulties of diagnosis, by which he attains his object of rendering more easy the knowledge of an infinity of diseases, but little studied by pupils. We shall now introduce our readers to the author's views on the subject of the management of cutaneous diseases.

" The antiphlogistic regimen is applicable to many inflammations of the skin; a steady regular life, habitual cleanliness, and care in clothing, a regimen composed of white meats, fresh vegetables, juicy and ripe fruits, contribute powerfully to assist the effects of therapeutic means.

Milk diet, followed with perseverance by persons afflicted with severe and old infflammations of the teguments, has sometimes produced a cure where pharmaceutic preparations apparently the most judicious have failed to do so. Veal, pullet, and frog-broths, are employed under the same circumstances ; they may easily be substituted for those of the tortoise and viper, which are proved in the present day to possess none of the specious advantages which superstition and credulity had attributed to them. A number of circumstances dependent on age, temperament, previous or concomitant diseases, and particular conditions under which the sick are placed, sometimes require the tonic regimen to be substituted for the antiphlogistic, which is, nevertheless, of more general application."

Possessing as we do, old English ideas, we cannot help smiling at the specious advantages supposed to be possessed by the tortoise viper, or their substitute frog-broth, we can scarcely suppose our author was without some degree of faith in them, or why the occasion of this allusion to what superstition and credulity had alone attributed to them ? On therapeutics we have the following.

" If the therapeutic department of diseases of the skin has still many obscure points, and the results of numerous researches made by authors appear sometimes contradictory, it is because there have been few experiments made in which the direct effects of the remedies have been clearly shewn, and they have been almost always limited to indicating the curative, or distant effects. In fact, to announce that a patient affected by *dartres*, that is to say, acute or chronic inflammation of the skin, has been cured by taking dulcamara, *rhus radicans*, tincture of cantharides, or whey, or after having been bled once or oftener, and not to make known the form, extent, or degree of these inflammations of the skin, the state of the principal organs, and numerous other circumstances attendant on each individual case ; is to publish a series of observations very nearly deprived of all their interest. To say, in a vague manner, that such or such a remedy has sometimes succeeded in diseases of the skin, and that it has failed in cases precisely similar, without entering into the conditions which have influenced such opposite results, is to give us to understand that chance presides over therapeutical experiments. Lastly, to boast of the curative effects of a remedy, and to support this assertion by incomplete observations only, in which we see this agent constantly associated with other medicaments, more or less energetic, shews but little familiarity with the art of making experiments.

I have avoided, so far as I have been able, these different rocks, but there is still much to be done in this respect. There are much greater difficulties in making accurate experiments in chronic than in acute affections of the skin. They terminate sometimes in a spontaneous manner, after having been for a long time intractable to a host of therapeutic means ; and we feel that this circumstance makes it difficult to prove the share any remedy employed for several months has had in their cure. In giving a history of each disease, I have indicated the treatment which appears to me the most proper in its different stages, and the modifications that certain accidental lesions may require. I have also added some critical observations on other less useful or more dangerous measures.

Sound theory and clinical observation daily show the advantages of external medications in the treatment of cutaneous diseases. It is true, that patients have the greatest prejudice against these kind of remedies, to which they often prefer the most insignificant *tisanes*, or medicines the energetic actions of which render them more or less dangerous. Nevertheless, for some years, practitioners, more and more convinced of the advantage of acting directly on the affected organ, have successfully enlarged the circle of external medicaments.

1°. Local bleeding is now frequently employed in the treatment of acute diseases of the skin. It is generally useful in erysipelas, scarlatina, variola, rubeola, &c. The advantage of bloodletting in chronic inflammation is less marked, and still less appreciated. However, local bleeding, by leeches or cupping, has produced, under my own observation, very marked effects in diseases which had been treated at different times by stimulating medicines. I have obtained great advantage from its use in eczema, impetigo, psoriasis *guttata*, tinea *mucosa*, lichen, *local* prurigo, herpes *phlyctenoides*, &c. In acute and chronic inflammations of the skin, bloodletting may be employed in young, strong, and well-constituted individuals, and at all times when the inflammations is general, or accompanied by painful sensations."

The foregoing evinces a degree of practical knowledge and mode of reasoning highly creditable to our author. We enter fully into the consideration, he devotes

to baths in these affections,—a system of treatment much neglected in British hospitals. We particularly call the attention of our readers to the following.

" When it is considered that most chronic diseases of the skin owe their origin to uncleanlincss, and that acute inflammations are almost universally accompanied by augmentation of the bodily heat, but little surprise should be excited at the happy effects obtained by the use of simple baths, or those of the decoction of bran, by emollients gelatinous or oily baths, mucilaginous lotions emollient cataplasms, &c. To be beneficial, these baths should be temperate; for the continued use of hot baths rarely agrees when the skin is inflamed. Soft and river-water baths, in particular, are advantageous in a great number of acute and chronic inflammations, rendered permanent by their nature, form, or long continuance. I have made several experiments on the administration of fresh narcotic baths in the treatment of chronic and painful inflammation of the teguments, the results of which have appeared to me very favourable. Sea baths have been considered by Willian as very efficacious in many chronic inflammations of the skin. We know that, at the beautiful hospital at Margate, very frequent recourse is had to this therapeutic agent. At Paris, the alkaline bath, the composition of which approaches to a certain degree that of the sea-water bath, is employed under analogous circumstances.

I have endeavoured to indicate the conditions under which the application of baths and aqueous vapour may be usefully prescribed. It is sufficient to remark in this place, that they are to be used principally to subdue certain inflammations of the skin, to cause the fall of scales and crusts, to stimulate the circulation on those parts of the integuments upon which they are dirccted, and to stimulate certain chronic inflammations. They are useful also under many other conditions, as MM. Attumonelli*. Assalini,† Rapou,‡ &c., have made known, with many details."

Besides the importance of baths. M. Rayer is a warm advocate for fumigation, and when we consider how simple is the apparatus and how efficacious its application, we need not apologize for quoting the following.

" I have also tried to determine the cases in which dry fumigations are specially applicable.

The fumigating apparatus, invented by Glauber* and Lalouette,† revived with some improvements by M. Galés,‡ has been brought to great perfection by M. d'Arcet.§ It is after the design of this able chemist that the apparatus constructed at the Hospital St. Louis has been executed, under the immediate direction of M. Pêligot, whose name brings to mind a host of important improvements introduced into the government of our hospitals. We can now by means of these ingenious inventions, direct local fumigations on the face, arms, genital, &c., without placing the patient in an atmosphere charged with the medicamental substances.

Fumigations have also been used in the treatment of cutaneous diseases, by Messrs. Clarke‖ and Wallace¶ in England, and by M. Decarro** in Germany, who have published some very interesting observations on their effects.

2°. Sulphureous preparations enjoyed for a long timc a merited reputation in the treatment of skin diseases. Natural or artificial mineral baths, and the waters of Barèges, Cauterets, Plombières, d'Enghien, and Aix in Savoy, of Bade and Leuk in Switzerland, &c., have been recommended in psora, cuperosa, mentagra, chloasma, &c. Sulphureous fumigations have been employed under the same circumstances, but their efficacy has certainly been exaggerated. They not only irritate the skin, as all sulphureous preparations do, but they may produce syncope, suffocation, &c.; this points out the danger of their use with childern, old persons, prcgnant woman, &c. The fumes of sulphur, administered according to the process of M. Ballard, are considerably less irritating than fumigations of sulphureous acid gas.†† Sulphur ointments and lotions possess analogous properties; their energy may be modified by the addition of other substances of morc or less activity, or which only add to their negative qualities."

Rayer denies the injurious effects which have been ascribed to the salts and oxydes of

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* Attumonelli *Memorie sur les Eaux Minérêles de Naples et les Bains de Vapeurs*. Paris, 1804.

† Assalini (Paul), *Recherches Medicales sur les Bains de Vapeurs et sur les Fumigations des Substances Ammoniacles, de Sourfre, et de Mercure*, (in Italian,) 4to. Naples, 1820.

‡ Rapou, *Traité de la Méthode Fumigatoire*, 2 vols. 8vo. Paris, 1823.

* Glauber (Jean Rudolph), *Furni Novi Philosophici, sive Descriptio Artis Distillatoriæ Novæ*, 12mo. Amstelædami, 1823.

† Lalouette (P.), *Nouvelle Méthode de Traiter les Maladies Vénériennes par la Fumigation*. Paris, 1776.

‡ Galès *Mémoire et Rapport sur les Fumigations Sulphureuses Appliquées au Traitement des Affections Cutanées*, 8vo. Paris, 1816.

§ *Description des Appareils à Fumigations, etablis sur les Dessins de M. d' Arcet, à l' Hôpital St. Louis*, en 1813, 4to. Paris 1818.

‖ Clarke (Arthur), *An Essay on Diseases of the Skin, containing Practical Observations on Sulphureous Fumigations, &c.* 12mo. London, 1821.

¶ Wallace (W.) *Observations on Sulphureous, fumigations &c.* 8vo. Dublin, 1820.

** Decarro (T.) *Observations sur les Fumigations Sulphureuses*. Vienna, 1819.

†† Sulphur fumes may be directed to any particular part by means of the simple apparatus used for cinnabar fumigations of the throat, &c.—T.

lead and which accuses the unenlightened partizans of the mineral physiology with having exaggerated their effects denying these to be remedies often useful in certain inflammations of the skin accompanied by morbid secretion.

"The results of the first observations made on the use of lead,* carbon,† and the oxyde of manganese, in the treatment of cutaneous diseases, announced as most favourable, have appeared by later experiments very equivocal. Mercurial lotions, fumigations, and baths, are not only employed with success in syphilitic, but also in some other chronic inflammations of the skin.‡ The proto-chloruret or deutoxyd of mercury enter into the composition of almost all anti-herpetic ointments prescribed in our formularies. Acidulated, saline, and alkaline lotions, liniments with the addition of prussic acid,§ have been recommended in some chronic diseases of the skin, such as impetigo, cuperosa, &c.; but these experiments require to be repeated under better determined conditions.

Success has sometimes been obtained by stimulating certain inflammations of the skin, developed in scrofulous habits, by means of hydriodated ointments. Combining iodine with mercury has been found advantageous in the treatment of tuberculous and ulcerated syphiloid disease. The combined action of these two very powerful agents should be narrowly watched.

A long time since, it was proposed to transform chronic into acute inflammations of the skin, to accelerate their progress and cure. With this view, they were treated, by turns, by cataplasms of wall-pepper; letterwort, the juice of euphorbia lathyris, cantharides, by blisters, stibial ointments, acid, or acidulous lotions, &c.

Vesicatories employed by Ambrose Paré in cuperosa, have been also used by several other pathologists, in lepra, lupus, psoriaisis, &c. The numerous experiments of M. Alibert, on the action of the nitrate of silver, and of chlorine, show that they have often had the effect of superficially cauterizing the skin when affected by chronic and intractable inflammation,‖ but they equally prove that this stimulating method not employed with caution, may be followed by an aggravation of the inflammation it was meant to subdue, and sometimes by indelible cicatrices. Lastly, disorganizing inflammations have sometimes been attacked with the greatest success by cauterizations made with the nitrate of mercury.*

Vesicatories and cauteries have been recommended as derivatives, in numerous chronic and local diseases of the skin; they are always injurious in general phlegmasiæ of the tegument.

Such a number of internal medicines have been employed in the treatment of cutaneous disease, and the mode of action of many of them so little known, and so variable, according to the circumstances under which they have been administered, that I have been somewhat embarrassed how to class them.

1°. Some possess only negative qualites; these are aqueous drinks, such as decoctions of barley, millet, liquorice, lemonades, &c.

2°. Others, such as saline purgatives, calomel, and the different acids, appear to act by causing a temporary revulsion towards the alimentary canal. Not only has each of these medicines an action peculiar to itself, but some persons have supposed that they may be absorbed, and consecutively produce various effects on the skin. In support of this opinion, the peculiar action of the sulphuric acid exercises on ulcerated eczema and lichen *agrius*, and the not less remarkable effect of calomel in some other cutaneous diseases, has been cited.

3°. Some remedies have an *especial* and salutary influence over several diseases of of the skin. Thus, murcurial preparations are *specifics*, that is to say, they are generally better adapted to the treatment of syphilitic eruptions than any other medicamental substances. But it is very uncertain whether the preparations of gold,† carbon, and ammonia,‡ enjoy the same advantage; it is still less certain whether the scabiosa, burdoc, sorrel, hyssop, sarsaparilla, soapwort, dulcamara,‖ *rhus radicans*,¶ elm-bark, toothwort, garden and horse radish, &c., or lime-water, have any general action against those chronic diseases of the skin which are commonly designated under the name of *dartres*.

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* Weinhold, *Der Graphit als ein neu Entdecktes, &c.* i. e. *Plumbagine proposed as a newly discovered remedy against Dartres*, 8vo. Leipsick, 1808.

† Griois (F. B.), *Considerations sur l'Utilité de la Poudre de Charbon de Bois dans la Traitement de la Teigne, de la Gale, et de quelques-autres Affections Cutanées*, 4to. Paris, anno xii.

‡ Caffé, *Avantages des Bains Mercuriels dans la Traitement des Maladies Vénériennes et Cutanées*, 4to. Paris, 1815.

§ Thomson (A. T.), *On the Employment of Prussic Acid externally, &c.* Medical and Phycal Journal, Feb. 1822.

‖ Guillemineau (L. C.) *De l' Emploi du Nitrate d' Argent Fondu, dans la Traitement Externe de quelques Maladies* 4to. Paris, 1826.

* Godart, *De l' Emploi du Nitrate Acide de Mercure*, 4to. Paris, 1826.

† Niel (T. G.), *Recherches et Observations sur les Preparations d' Or*, 8vo. Paris, 1821.

‡ Peyrilhe, *Réméde Nouveau contre les Maladies Vénériennes, tiré du Règne Animal*, or, *Essai sur la Vertu des Alcalis Volatiles*, 4to. Paris, 1774.

§ Carrère (T. B. Fr.), *Traité des Propriétés Usages et Effects de la Doucemére, ou Solanum Scandens, dans la Traitement de plusieurs Maladies, et surtout des Maladies Dartreuses*, 8vo. Paris, 1718.

‖ Dufrênoy (Andr.), *Des Caractères, du Traitement, et de la Cure des Dartres par l'Usage du Rhus Radicans*, 8vo. Paris, an. viii.

¶ Detharding (G. Ch.), *De Aquæ Calcis Vivæ usu Interno Salutari, in Specie in Morbis Exanthematicis, Chronicis* 4to. Rostochii, 1746.

It appears evident that these medicines have been more frequently employed than others, because they have more generally been successful. My task is to make a judicious choice of these medicaments, by taking account of the properties possessed by them, according to the most recent analyses, by studying the conditions under which each of them has presented peculiar advantages, and to confirm these researches by new experiment: an immense undertaking, which I have not been able to excute in all its details.

Preparations of antimony and sulphur have been prescribed in a great number of diseases of the skin. They are most frequently administered in combination with other more or less active medicines. I shall mention the most useful of these compositions, in treating of the diseases in which they have been more particularly employed. The deplorable resistance which some chronic diseases of the skin offer to external applications, has given rise to some bold experiments on the internal use of the tincture of cantharides and arsenical preparations. The tincture advised by Avicenna and Mead, in the treament of elephantiasis of the Greeks, is now most frequently employed by some pathologists against lepra, psoriasis, and several other chronic affections of the skin. The arsenical preparations recommended in elephantiasis of the Greeks by the Indians, and in intermittent fever by the English practitioners, have been accordingly introduced in the treatment of the chronic diseases of the skin by Willan and Bateman, by M. Otto, and Mr. Thomas Girdlestone.* The *Asiatic pills*, and the solutions of Pearson and Fowler, are the arsenical prepartions most frequently used.

I have been careful to mention, in the course of this work, and in particular in treating of lepra and psoriasis, the precautions that are necessary to avoid converting these energetic agents into real poisons; but I think it also proper to observe, that if it has been proved that these medicines have cured in few weeks or months, affections of the skin which have resisted a host of other remedies, it is also known that patients have taken, without success, a hundred and fifty doses of tincture of cantharides, (of ten, fifteen, twenty, thirty, and sixty drops each); and that others have found no benefit from the use of Fowler's solution and the Asiatic pills, continued for more than four months. It cannot be denied, however, that whatever may be the ability of the practitioner who administers such active remedies, it occasionally happens that the digestive organs become insidiously affected by chronic inflammations, which take place at more or less distant periods; for, if the salutary action of these remedies does not take its effect on the skin till after several months of their use, may not the mucous membrane of the digestive organs become altered in a slow and gradual manner, without producing appreciable external symptoms? For my own part, I ardently hope that experiments of another description, put to the same test, may cause these violent remedies to be superseded by external medicines, more rational, more immediate in their effects, and less dangerous."

Our space will not permit us to prolong the review in this number; but we have shown enough to prove that our author has investigated the diseases of the skin and their treatment with a skill highly creditable to him. We shall therefore recur to the work in order to bring to the notice of our readers an able section on inflammations of the skin.

* *London Medical and Physical Journal*, Feb. 1806.

THE INDIA JOURNAL

OF

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Calcutta: August 1, 1836.

CONSTITUTION

OF THE

MEDICAL DEPARTMENT.

H. C. Service.

Before we proceed to the promised section of this article, we are desirous of avoiding any charge of exaggeration which may be preferred as touching the items of Tent and travelling expenses, &c. We beg particular attention to the explanation we proceed to give. When we lay down these items of expense we allude to the average combined with the item house rent. It is true there are individuals who may have been so fortunate as to escape these heavy disbursements. We do not however judge of individual cases, but of the service in general. How many young surgeons, as a matter of necessity, are compelled to purchase their quarters; how many dispose of them again as a matter of necessity at half the amount of the first purchase or the station being done away, and never recover a fraction of the large sums of money they have expended in the purchase. The death of cattle, the destruction of tents by white ants, the purchase and death of his horse, &c. are heavy items. Then the young surgeon, moving from place to place at a moment's notice, and, if possessing talent, the incessant

calls for his attendance without remuneration should also be taken in the amount. It is conceived that the honor of being preferred over his peers is ample reward. The case of the celebrated Mr. Jacob may still be fresh in remembrance. He was our Assistant in the Regiment of which we had charge at Barrackpore ; we are therefore well acquainted with the particulars of that talented young Surgeon's grievance. But we exclude altogether the matter which led to the Court martial ; for that was grounded on circumstances of disrespect, to his superior officer. Had that disrespect not been evinced, we fully believe, there would have been no court martial. The substance, of Mr. Jacob's grievance was that on account of his superior qualifications and talents, he was called upon by numerous families of Military officers not belonging to his corps to afford them medical aid. This he did with zeal, kindness, and skill. From young officers and those especially who had families he refused to receive remuneration, knowing their means would not admit of such a sacrifice : but he did expect remuneration from those of higher rank, who called upon him and who could not claim, according to his belief, his professional attendance, because these officers were not attached to his Regiment. By the regulation of the service Mr. Jacob had neither the right to demand nor to seek remuneration ; but were he to refuse his aid when called upon, he would be deemed not only unkind but inhuman. This young surgeon at that time was on the receipt of about 250 rupees a month. How then was he to provide conveyance to attend upon these families in a straggling station. Now we are of opinion that this case clearly makes out our position, and is applicable to numerous medical men in India that in addition to other contingencies, we have not in the least exaggerated the house rent, and travelling expenses, &c.

We next arrive at the period when it may be supposed that after five years the young Surgeon has attained Medical charge of a Regiment.

We are now to consider his circumstances. We find him involved in debt the exact amount of which it is almost impossible to define ; it depends so much upon the circumstances under which he enters the service. A great many have already incurred a very heavy expense on their professional education. To acquire the medical profession in London the pupil undergoes an apprenticeship and before he gets his diploma, he expends at least £500. This, of course includes Boarding, Lodging, &c. There are few respectable families in England who can expend this sum after the previous outlay in academical education ; and also afford to disburse for an outfit and passage money to India 200 £. This latter sum is therefore in nine cases out of ten borrowed, on the florid expectation that an appointment in the Hon'ble Company's Medical Service is a certain fortune, and that this debt will be immediately liquidated. Thus, in the first place, we are to charge the young Surgeon with a debt of rupees 2,000. We have already shewn that his camp equipage, uniform, &c. has cost him rupees 1,500 more, which brings the debt to rupees 3,500, of this sum, rupees 1,500 is at an interest, we will say the lowest, (excluding the insurance on his life) of 12 per cent. for five years. His debt, then, without interest, on the remaining 2,000 amounts to rupees 4,400. But we have shewn that his receipts are not equal to his expenditure by 70 rupees a month. Seventy rupees a month for 5 years amounts to, Rs. 4,200, which, added to the previously mentioned debt, is rupees 8,600 or £ 860 : so that an Assistant Surgeon after five years service in the Hon'ble Company's employ, when he obtains the charge of a Regiment is in debt rupees 8,600 or £ 860 ; the interest of which at 12 per cent.* per mensem is, rupees 86 or £ 8 12 0.

Now it must be allowed by every candid reader that additional expenses are incurred by every medical man in charge of a Regiment ; and hence, allowing him to be an honest and upright man, determined to pay off his debts, the moment he has the means, we proceed once more to consider what these means are, or in other words, his receipts and the amount he will be able to

* This does not include insurance of life as the agents security.

remit. These receipts at a full batta station, as we have shewn before, amount to rupees 421 10 annas or £42-3-3. The interest on his debt monthly is rupees 86 or £ 8 12 0. His expenses, we will consider at the minimum, rupees 321 or £ 32 2 0.

Thus then he is only able to liquidate the interest of his debt, that is to say supposing that he continues to retain charge of a Regiment which is not probable, neither is it generally the case; so that we have obviously placed the situation of the Military Assistant Surgeon in the most favorable light. But are there exceptions in regard to particular individuals? Certainly there are. There are men who secure settled situations, others who scarcely leave the precincts of the presidency. Some who escape the purchase of tents and loss by cattle, whose tour of duty is generally along the course of the the river, or by dâk. Such are spared the expense we have stated as the average. There are others of extreme economical habits who deprive themselves of the common comforts of life and suffer privations with the hope of once more returning to their beloved native shore. Most of these, however, die in a country where a certain degree of comfort is essential to the preservation of health; others survive and imbibe a habit of saving, which they never lose. Such live and die unknown: misery and wretchedness accompany them to the grave.

But our history has nothing to do with these classes of individuals. Our description of the constitution of the Medical Department of the Hon'ble Company's Service considers only a liberal minded body of professional men entitled, by their education, by their rank, and by all that is expected of such in Europe, to all those considerations which are conceded and experienced by them. Such men have a right to expect similar privileges similar expectations and similar rewards; and we maintain, without the fear of contradiction, that if such terms are not conceded, professional men of respectability will not enter the Hon'ble Company's Service, they will not leave home and connections, they will not endure hardship, labour, and ill health for what does not afford even a common subsistence. We have been told that by the argument we have taken up we shall deter medical men of respectability from entering the service. What by removing the veil and exposing the real state of things do we attain such an end? by such an argument as this the Court of Directors are accused of deluding men of respectability into India. We will not admit this accusation as just. We maintain that we are the real friends to the service by putting the Hon'ble Court in possession of facts in time that they may altogether remodel and improve the condition of their medical servants, and prevent such a serious consequence as we are supposed to be facilitating. The Court must at least know, that we can have no interested motives for our period of servitude is nearly at end, and improving the junior branch of the service will not in the least benefit us; but we hesitate not to say that it must be done, and that speedily, or the service will unquestionably deteriorate.

We have again been told on the other hand that hundreds of medical men of the first rate qualifications might be found at the bidding of the Hon'ble Court, were they required. Under the present state of things we are ready to acknowledge the truth of the assertion. The Medical men of the King's Army and Navy, and professional students are in multitudes without employ at this moment. But because they are so now is the very argument to prove that such multitudes will not be found hereafter. The half pay Surgeon of the Navy and Army will soon be on the Superannuated list, and youths will not flock to the medical class when they find there has been a sinking of capital, and nothing but poverty and laborious servitude in return. Such an argument, as this latter therefore can have no weight whatever although we readily admit it may have with shallow politicians. If however hostilities were to break out with any other nation on the pobability of which it is not in our province perhaps to comment, we question whether the supply would meet the demand and should the suspected northern power, join a federate army to invade our Indian territories, how would our numerical medical list appear already unequal to meet the present requisitions on the Government.

But we must conclude. In our next we shall consider the situation of the young Assistant Surgeon after his promotion to the rank of Surgeon.

NORTH-LONDON HOSPITAL.

CLINICAL LECTURE.

By Dr. Elliotson.

On Thursday, October 29, 1835.

ACUTE RHEUMATISM.—The next old case which I shall mention, is one of *inflammatory rheumatism*. It was a kind of case which very often occurs, and which affords you an opportunity of seeing how easily you may often cure the disease if you make an accurate diagnosis of the form of the complaint. "William Tadmur, aged 31, was admitted on the 3rd of September, having caught cold three days ago." Now this is a case which illustrates what I was saying over the way this morning, in speaking of inflammation, and constitutional irritation before inflammation. Sometimes you have the inflammation first, and then the irritation spreads wider and wider until the whole constitution suffers. Sometimes you have the constitution suffering first, and then the inflammation shows itself. This latter was the case here." "The man experienced shiverings and feverishness, before he had pain; great weakness, and total loss of appetite." This affords an excellent illustration of what I was saying this morning, respecting fever as an attendant on inflammation,—"symptomatic fever,—thirst, weakness, loss of appetite, and a sense of heat. Left wrist and finger-joints were much swollen, and exceedingly painful on the slightest touch There was a great sense of weakness at the back." Now you will observe that not only the lower orders of people but the higher too, will tell you that parts are very weak, when, in fact, they are not weak, but only in pain. They will tell you that they cannot use a part for weakness, when it is only painful, and you may be led into errors by their representations, or, rather, their misrepresentations. "The attempt to move either arm gives pain. The neck was stiff and painful; the throat was sore, and much sorer a few days before; there was a tenderness about the larynx, and the tongue was thickly covered with a brown fur." Now that is not the case in rheumatism. The reason here was, that the mucous membrane of the throat was inflamed. When the throat is sore the tongue is often very foul indeed. The membrane of the tongue is inflamed, as well as the membrane of the tonsils and the mucous membrane further down, so that in inflammation of the throat you will find the tongue much fouler than in other inflammations, and merely because there is a local affection there. The presence of local affection may affect other parts, from the state of which we are in the habit of judging of the general conditon. For instance, sometimes you will find the pulse weak on one side, and strong and firm on the other. Now this I saw yesterday. I felt a gentleman's pulse last night. One side was weak, exceedingly weak; on the other side it was exceedingly strong and full; but I was quite sure, from his appearance, from his langour, from his faintness, and from every other symptom besides the pulse, that he was in a state of great debility; and, notwithstanding the full pulse, I was satisfied that the weak pulse was that which indicated the true state of his system. In general it is the strong pulse which does that, because the pulse on the weak side is merely the result of a small artery; but here the pulse was full on the one side, on account of there being acute rheumatism in the wrist of that side. And just as it is with the pulse, it is with the tongue, in diseases in which there appears to be a local affection. Now our present man having acute rheumatism, would have had his tongue white, not brown. In general it is by no means brown, but it was so here; because there was a local inflammation of the mucous membrane of the throat and mouth. "There was much thirst and no appetite; he sweated much at night;" this you will usually find to be the case in acute rheumatism. The secretions are all diminished when there is inflammation, excepting in one disease, and that is acute rheumatism. Generally, there are sweats at the very beginning.

The form of the disease being active inflammation of the fibrous membranes, the man was bled to a point, and ordered to take ℥ss of vin. colchici and 10 grains of carbon. magnesiæ every six hours, and to be put on low diet. The blood was much buffed and cupped. Now the disease was not dangerous, though the blood was much buffed and cupped, the blood usually presenting those characters in active rheumatism, where there is no danger at all. The result was, that the throat was no longer sore, and the pain was considerably diminished, although the bowels had not been disturbed by medicine. Now all this good, I have no doubt, was owing to the bleeding. On the 5th of October, though he had only been admitted on the 30th of September, he was very well. I believe he continued to feel no pain, excepting a little in the right wrist, the tongue was clean, and he remained no longer in the hospital. Mr. Taylor prescribed for him. Having made an accurate diagnosis of the form of the rheumatism, that gentleman was able to treat it thus successfully. Liniments and guaicum would have done no good in this case, and probably, would have made it worse. —*Lancet.*

CHRONIC INFLAMMATION OF THE UTERUS.

There is one more case, gentlemen, before I come to those of the present week, which we shall presently dispatch, and that is a case of *diseased womb*. Elizabeth Warren, aged 29, a married woman without children. Now this is to be noticed, that she was married and had had no children. About three months ago she awoke in the morning with a violent pain

in the hypogastric region. She had menstruated regularly before, and very copiously; her bowels had been kept open by medicine; she was not aware of having caught cold; the pain in the hypogastric region was accompanied by a severe bearing down. At the next monthly period which occurred a month after the attack, she has a profuse discharge, of a black colour, containing large clots of blood. At this time it lasted five weeks without intermission. The bowels were very much relaxed, and she took chalk mixture without effect. This was her previous history. At her admission to the hospital she had great tenderness all over the abdomen, and great bearing down. She had, occasionally, palpitation and throbbing of the carotid arteries, and frequently hysterics; the appetite was pretty good. Now I examined this woman myself and found the uterus very hard; the neck of the womb was as hard as I ever found it in scirrhus; the whole organ appeared to be solid and enlarged. On pressing against the os uteri I could scarcely produce any movement whatever. All seemed to be solid and fixed,—firm and fixed; and if the disease came on as she said it did, the probability is, that the uterus had suddenly fallen into a state of inflammation. She complained of great pain when I pressed it. If the history of the disease was as she described it—of which there was every probability, as the appearances agreed very well with her account, the probability was that the induration occurred from a continuation of the inflammation,—chronic inflammation of the womb. Had the disease come on very slowly, then the state of the uterus would have looked like scirrhus; but from the fact of its coming on in this sudden manner, and the patient being only 29 years of age, I entertained a hope that the disease was only chronic inflammation of the womb. It is impossible, however, to say whether it was a simple scirrhus, or—what the *old* writers called "scirrhus," and which we call merely "induration." Scirrhus was formerly used to denominate inflammatory induration, the word "scirrhus" meaning hardness. However, it was right I thought to act upon the hope that it was only simple induration. I bled her to a point, and gave two grains of opium after the bleeding, and five grains of hyd. cum creta every six hours. She appeared to labour under an aggravation of the chronic affection, and complained severely. On the 10th of September, two days afterwards, I found that the blood was slightly buffed. She had much less pain after this, and only slight tenderness. On the 12th she had no pain, and only slight tenderness on pressure of the hypogastrium, and she took the hydr. cum creta twice a day. On the 15th she continued free from pain, as she did also on the 17th, unless she walked. I went out of town at about the 18th, and did not see her again, but I found she was discharged on the 22nd of September, relieved. It is possible that by going on with mercury and antiphlogistic means, all the symptoms might have disappeared, but I will not say at this moment whether the disease was simple induration or scirrhus, in the modern exclusive sense of the word,

DISEASE OF THE LUNGS AND HEART.

I now come, gentlemen, to the cases of the present week, though, most probably, I shall not be able to notice more than one of them, and that is the case of a man who died the other day,—James Roberts, aged 51, formerly a seamen, but lately an inspector in a packet-office, who was addicted to drinking in his youth, but who had latterly been very moderate in his habits. It was stated, in fact, that he had altogether reformed; but the truth of this I should very much doubt. When young he had generally enjoyed good health. Some time since, at Blackwall, when about to sail for the East Indies, he caught cold, and he says that an abscess afterwards burst in his lungs, and rendered him very weak. Since that time he has enjoyed tolerably good health except being occsaionally troubled with "shortness of breath." He applied for relief at some institution, and pills were then given him, but they did him no good, and finding himself getting worse, he came here to be admitted.

Well, now, his present symptoms were,—violent pain in the lower part of the chest, increased by cough—a short hacking cough. He suffered most at night, and was obliged to prop himself up in bed. He was also obliged to take light food. The cough was accompanied by expectoration, and sometimes followed by sweating. He told me that he was very well in the summer,—that he was then very comfortable,—that his breath was very well, but in the winter he had this bad cough. He mentioned that he had severe and sudden attacks of difficulty of breathing. All at once, at times, his breath would be almost stopped, and a loud wheezing would be heard. I asked him particularly whether he was free from these complaints in the summer, and I recollected distinctly his saying that he was quite well in that season. A dull sound was elicited on percussion, as though the lungs were too dense on the right side, but there was no sign of fluid in the chest. The left side sounded more naturally than the right. There was great induration of the lung in the right side. The dull sound on percussion, was on the right side, where he had also crepitant and mucous and sonorous rattle.

Now the crepitant rattle showed, in all probability, the existence of chronic inflammation for the sound was dull on percussion. If his account was correct, and I have thought that it was not—if he was so well a short time before, there could not have been chronic inflammation of the aircells. The crepitant rattle might have arisen from dilatation of the air-cells, which is called "emphysema" of the lungs. But the sound was dull on percussion, which it is not in dilatation of the air-cells. Where there is dilation of the air-cells you have very little respiratory murmur. There was abundant respiratory sound, for in most parts there was sonorous, crepitant, and mucous rattle, all over the chest. No pectoriloquy existed, but on the right side the sound of cavernous respiration was detected

at one point, at the upper part of one lobe —at one part of the upper lobe of the lung.

Now, this might have arisen from the abscess, or cavity, there, resulting from ulceration; or it might have arisen from a dilated bronchus. If his account was correct, that he was very well a short time ago, the cavernous respiration could not have arisen from any scrufulous disease of the lungs. But you will often find persons in the humbler classes declare that they have been perfectly well, when in fact, they have been very ill. They date their illness from the time they were first unable to work. They will tell you that they were well, when you can see they were ill. This fact Dr. Louis, of Paris, notices in his remarks on the examination of cases; and, in fact, every body must have noticed it. It is the same in France, it appears, as it is here. His bowels were open and griped; the pulse 120 and weak.

Now, there appeared to be a large quantity of mucus in his lungs. There was a sonorous and submucous rattle, and it seemed a great object to clear out the respiratory canals; I therefore ordered him a scruple of ipecacuanha every morning, to make him sick. This was effected. He brought away a great quantity of mucus, and was very much relieved. For the spasmodic attack I gave him five minims of the tincture of the lobelia inflata, which rather relieved him. The dose was afterwards increased to 15 minims. He continued the emetic for a few days longer, as I wished, and it did him a great deal of good; but it was impossible to continue to give him more after this, and I began to strengthen him with a grain of sulphate of iron three times a day, and the dose was gradually increased to four grains; but his legs began to swell, his whole system to sink, and he died at half-past one on the 26th of this month, October.

On examination we found universal adhesions between the pulmonary and the costal pleuræ. That is the proper way of expressing it. The lung on the right side was densely crowded with tubercles above, where there was a large excavation. The left lung was also tuberculous at its upper part, but there was no cavity in its substance. The air-tubes were filled with dirty mucous; their blood-vessels were highly congested, and exhibited evident marks of inflammation. The tubes you see are all filled with a most dirty-looking, dark-coloured mucous, so that there had been scarcely any very useful respiration going on in the greater part of them. Here is the lung. No wonder that there was a dull sound on percussion, for the lung is very solid. There was cavernous respiration at the upper part, and here you see a cavity. You observe the lung to be pretty solid. This accounts for the dull sound on percussion. There was the crepitant rattle, for between the tuberculated portions, the pulmonary substance is highly inflamed. The lungs are red, and also hard. Now that, I believe, is simple chronic inflammation of the air-cells, and chronic inflammation of the air-cells that has produced induration. The submucous and the sonorous rattle would all be explained, by the tubes being crammed with viscid mucous, which would prevent the air from passing through them with any degree of facility, and then when the mucous got into the larger tubes, it would of course cause the mucous rattle.

Now the mucous membrane is very much diseased. It was so much diseased that it is very red and thickened,—so much thickened that it actually is ribbed. You will see the mucous membrane there. I showed it to Mr. Quain, who sees the healthy appearances of all structures much oftener than I do, and he said that unquestionably it was very much thickened. The membrane is quite ribbed, as you see, very thick and firm, or indurated.

The heart was very much dilated in its left ventricle; but no signs were given of this during life, and the reason was this, that there was a dull sound to a great extent, on percussion from the extensive induration of the lungs, and the heart beat very feebly. I have seen cases in which, where the lungs were full of tubercles, and where the heart was even small and yet pulsation was felt all over the chest, from the solid state of the lungs. I recollect one case at *St. Thomas's Hospital*, that of a young man whose lungs were filled with tubercles. I never saw so many solid tubercles before, nor have I since. None of them were soft. The heart was not at all larger than usual. I felt its beat in the right axilla. But our present man was in a state of great debility, and where there is great debility you may have no signs of diseased heart. I have seen persons with very diseased hearts indeed, in whom strong pulsation was at first manifest, but in whom, towards the latter period, when great debility ensued, the action of the heart became so feeble that the patients gave no longer any signs of disease there. By extreme debility the impulse of the heart will be diminished, and the feeling of extensive beating in it will likewise be lessened. But there is unquestionably dilatation of the left ventricle.

No preternatural sound could be discovered about the side, and the pulsation was too feeble to be felt extensively. But here *(holding up the diseased lungs)* is the disease from which he of course died. This great cavity in the lungs must eventually have led to his death. Yet I have seen individuals live a long time after such a cavity has been formed. Seeing that in this case there was no available remedy, it would have been very wrong to go on with emetics any longer, and accordingly he took no emetics for, I believe, twelve days before he died. I believe, gentlemen, the bell has rung.—*Lancet.*

NORTH-LONDON HOSPITAL.

CLINICAL LECTURE

ON

ERYTHEMA AND ERYSIPELAS,

Delivered in November, 1836,

By Mr. Liston.

The last time I had the pleasure of seeing you here, gentlemen, I proposed saying

something with regard to strieture of the urethra and other diseases of the urinary organs, but two very interesting eases, more than two indeed, of erysipelas, of a very severe nature, have lately been admitted, and I think it is a pity to lose the opportunity of making some remarks upon the cases whilst they are fresh in your reeollection; therefore, with your permission, I shall for the present delay my observations on urinary diseases and take up the subjeet of erysipelas.

The cases to which I have alluded have been as severe as any I have witnessed for a long period. I had at one time very ample opportunities of observing this disease in an hospital that was extremely unhealthy, until the management fell into new hands, when, having the opportunity of beeoming in some measure the instrument of reform, I endeavoured to amend the unhealthy eondition of the institution, and sueeeeded in my objeet. Now this is a disease which is well worthy of your attention and study, seeing that it is apt to follow all sorts of injuries, slight or severe; and is a frequent attendant as well on the most trifling operations as on those of a more severe nature,—a disease whieh, when it prevails, is ealeulated to mar the best efforts of the surgeon in eonduеting the treatment of injuries, or in endeavouring to relieve patients by operation.

There are several forms of the disease. We meet with it both after injuries, and to use a doctor's phrase, as an "idiopathie affeetion;" that is, it eomes on of itself, and does not arise from or depend on any other disease. It presents different degrees of severity. It attaeks merely the surfaee of the body, the vessels which ramify on the surfaee of the chorion, which you see exposed after the application of a blister, the vessels which supply the eorpus mueosum,—those are principally affeeted in one form of the disease. In onother form the whole thiekness of the cutaneous tissue is diseased; and, oeeasionally, something more,—the parts underneath.

The one form of the disease, also, is apt to pass into the other. The erythema, so called from its red appearance, is apt to pass into the substance, and beeome what is called "erysipelas," a disease which involves the neighbouring tissues. We have then an intense redness of the surface, and a swelling of the parts attacked, whieh passes into the subjacent tisue. Thus the disease is apt to spread both superficially and in depth.

The constitution is predisposed to attaeks of erythema or erysipelas. Disorder of the digestive organs predisposes to it. It is very apt to attaek hard livers, and those who indulge in spirituous liquors. In such patients it will follow a trifling wound, espeeially of any of the fibrous tisues, or of the scalp, or at the point of the elbow or the knee. Attaeks of erysipelas are almost always aecompanied by more or less derangement of the digestive organs.

The state of the atmosphere predisposes very much to the disease. In warm damp weather it is more frequent than in very cold or very hot weather. In spring and autumn it mostly prevails; and at those periods you ean almost predict with eertainty the prevalence of erysipelas from the state of the atmosphere. It also often arises from putrid exhalations, and the exposure of patients to miasmata. A very remarkable instanee of this oeeurred some time ago, in the eavalry barraeks in the neighbourhood of Edinburgh. Any one who has been in the North, on going into Edinburgh by the London road, must have observed a large pieee of flat ground, eovered with luxuriant and rank vegetation, and presenting an intolerable nuisance to the nose. The water from all the sewers of that beautiful town are eolleeted into a sort of filthy, putrid rivulet, whieh I think they eall the "Tumble," and in that way is eolleeted in reservoirs; here and there are floodgates, and at eertain periods this horrid eolleetion is allowed to flow over and irrigate the meadows which I have mentioned; and suehis the effeet of this proeess that you eannot pass in that direetion, espeeially just before the setting in of wet weather, or a storm, without being almost suffocated, and finding it necessary to hold your nose all the way over half a mile or more of road. I am, in fact, astonished that the nuisanee is not abated. An attempt was once made to have this lovely stream eovered over, and the contents carried down to the Forth; and if I mistake not, a bill was carried into Parliament with that view, but great efforts were made by the proprietors of the land to prevent the passing of the measure, and they sueeeeded in getting the bill thrown out. No wonder they should be anxious to preserve a nuisanee which produeed them, I believe, some 20*l.* or 30*l.* an acre annually, for land whieh previously was not worth twenty shillings. The cavalry barraeks stand pretty nearly in the middle of this swamp, and sometime after a regiment of Dragoons was stationed there, and on the very day following that upon whieh those sluices were opened, and the irrigation commenced, eight cases of erysipelas appeared amongst the troops, who were previously perfeetly healthy; and before that regiment left the barraeks, a eonsiderable number of men, and two or three of the officers, were destoryed by the disease.

The disease may also be produced from exhalations from dung-heaps or filth eolleeted about hospitals; and I recolleet that in the hospital at Edinburgh, in spite of all the remonstranees I eould make, a quantity of putrid matter was collected into one corner there, and every patient that was received into the rooms above, was attaeked by erysipelas to a greater or less extent.

But the disease may be propagated by eontagion. There is not the least doubt of that. One of the eases at present in the hospital shows that fact tolerable well though a stickler might say that the woman was exposed to the same exhalation, or to the same atmosphere as her mistress, whom she attended with the disease before she came in here. I allude to the patient who is lying at the farther end of the ward No. 2. Her mis-

tress had crysipelas following puerperal fever, and our patient was attacked with erysipelas in a few days afterwards, exceedingly severely. She was brought here, and with difficulty she was made convalescent.

I had very good opportunities of being assured that this disease was contagious, in the hospital to which I have alluded. When I became a dresser and a house-surgeon there, and for a long time afterwards, erysipelas raged in the establishment as a perfect plague. No patient was admitted with a breach of surface, an ulcer, or a wound of any kind, without suffering erythema or erysipelas; and scarcely a single operation was performed, seldom even blood-letting, without the same result to a greater or less degree. This arose from the foolish practice of washing every sore indiscriminately, as was the fashion of that day, with a sponge and water, and I believe the same sponge and water were often used for many sores, and the consequence was that a patient with a putrid sore, or labouring under an attack of erysipelas, soon became the means of spreading erysipelas through the ward; and it was only when I took charge of that hospital, and exercised a great deal of care, introducing such a better system of dressing as is now pursued here,—after destroying all the sponges, and directing that if the wounds were washed at all (and there is no use in washing any thing but the surrounding skin), they should be washed with clean water and tow,—that we succeeded in improving the state of the hospital. I was looking the other day over the list of patients on whom I operated in that hospital for stone, and I may enable you to judge of the benefit gained to the patients by these changes when I state that of about forty cases I think not more than five were lost. The same remark applies to the operations of other descriptions; and certainly a very great number of the operations which I performed in cases where the union of parts by the first intention was necessary for the cure, such as operations for hare-lip, and the restoration of lost features, were treated with equal success. I believe that a great deal depended also upon an improved ventilation of the wards; and Sir George Ballingall, and many other friends, could bear me out in saying, that to such a fearful extent did the disease prevail at one time in that institution, and so difficult was its prevention, that they talked of taking off the roof, or removing the ceiling, and renewing the floors, to see if *that* would do any good. Erysipelas, however, as you see, may arise from much slighter and simpler causes than proposals to unroof and refloor a set of wards would lead us to suspect.

Erythema is confined to the surface, and presents a bright redness, which is lost, at its circumference, in the neighbouring parts, and disappears on pressure, for a time; and the part may pit slightly when the disease is advanced, and some slight effusion has occurred in the cellular tissue. The patient complains of a burning sensation of the part, but not of throbbing or violent pain. In erysipelas the whole thickness of the skin is affected, the vessels part with more of their contents, and an effusion of serum very often takes place under the cuticle. You see it marked in this drawing. I expected to be enabled to illustrate these observations by some drawings of the disease, which, I presume, are to be found in the extensive collection on the other side of the way, and for which I wrote, but they are not forthcoming. What you now see are more like caricatures than realities, but, in the absence of better drawings, they may serve to illustrate the disease. Here are vesicles produced by the oozing of the vessels, and in consequence of which vesicles appearing, the disease is placed in the order called "bullæ," and claimed by the physician. Here is a drawing of a case of bullæ, which was admitted into the hospital; the vesications, had all formed without the existence of any previous inflammatory action. But the vesications do not uniformly occur in erysipelas, and I do not see why physicians should have the exclusive charge of this species of the disease. There is also effusion into the subcutaneous cellular tissue, always producing more or less swelling, particularly in those parts where that tissue is exceedingly loose, and easily broken up, as in the scrotum, the prepuce, and the eyelids. The effusion takes place in those parts very early in the disease. Sloughing is very soon developed in them. The effusion consists in general of an albuminous serosity—of lymph,—gelatinous-looking but coagulating naturally, the former kind coagulating only by heat, or the addition of acids or of alcohol. In the more advanced stages, the lymphatic effusion very often becomes purulent, and you have deposits of pus in the part most inflamed and most tense; and on cutting into it either during life or after death, you perhaps find dead portions of cellular tissue with the pus. A little beyond this, lymph is found filling up the cells of the subcutaneous tissue; and yet here and there a globule of pus appears. Further off there is merely albuminous serosity; but in many cases there is a secretion of an exceedingly acrid nature, dark and putrid, which passes into the cellular tissue and very rapidly destroys it, ultimately destroying the skin too; because as old Freke, a surgeon at one time in *St. Bartholomew's Hospital*, says, a man's waistcoat cannot belong on fire without his coat burning also. There is a loss of the vessels which supply the skin, which then necessarily suffers also.

This putrid secretion occurs after injuries, and is similar to the fluid which is secreted from a bad ulcer. Exceedingly bad effects result from inoculation with a fluid of this kind. Nurses who wash bandages or poultice-cloths, sometimes get their fingers pricked with a pin incautiously left in the bandages, and are thus inoculated, although the matter is so exceedingly diluted, when a great degree of action is produced in the skin, and a quantity of this purulent fluid is formed in the cellular tissue. It is this sort of secretion

which is found in bruised wounds. There is excitement of the surface, without time for the cellular tissue to be glued up by inflammatory action and the deposit of lymph. This acrid fluid is poured out, is extensively infiltrated, destroys the tissue, and is often the cause of the rapid spread of gangrene. Before a part becomes gangrenous, a streak, a darkness, a sort of brownish tinge, is seen on the integuments, or above the part which altogether has perished. There is a brown streak seen running in the course of the vessels. This is not "diffused inflammation," as it has been called, of the cellular tissue, but an infiltration into it of putrid matter, which the cells of the tissue, being broken up, readily admit. The streak running in the course of the vessels is not the result of inflammation in the vessels themselves, but is the effect of the cellular tissue being there very loose, and readily admitting the serosity. The late Dr. Duncan, junior, of Edinburgh,—called "junior," when neither very young nor very well-conditioned,—a very learned man, and long editor of the *Edinburgh Journal*, wrote a book on what *he* called "Diffuse Cellular Inflammation," making a sad mess of the subject, as doctors generally do, when stepping out of their proper sphere, they attempt to teach surgery, or to meddle in any way with diseases which are curable, under proper management, by the timely and judicious employment of local means. I do not mean to deny that the cellular tissue is occasionally pervaded by inflammatory action, but it often suffers from infiltration following upon affection of the neighbouring and investing structures. I am not very sure, that in traumatic gangrene it would be a bad plan to attempt to limit the disease by tight ligature, when, from the violence of the inflammatory fever, or any other cause, amputation of the limb is at the time considered inexpedient; and I shall probably, on the first opportunity, try the practice. I do not see why we should not apply a tourniquet in such cases, though this is almost the only purpose for which I can fancy a tourniquet to be of use now-a-days.

We had a very good instance of the destruction of the cellular tissue lately, here, in a patient who was admitted with a bursal enlargement over one of the ligaments of the patella, which he attributed to kneeling on hard ground at prayers, he being a very rigid Catholic; but before he was dismissed he was seized with an erythema of the scrotum. What that arose from I know not, unless it was from the accumulation of filth. It might be from wearing dirty breeches, to which the old writers sometimes attributed the spread of venereal disease. Certainly the erythema was just as likely to have arisen from wearing dirty breeches as was the enlargement of the knee from kneeling at prayers. This erythema, however, was followed very rapidly by swelling of the scrotum, and in twenty-four hours afterwards there was a large dark speck at the lower part of it, in the cellular tissue, and the skin was only prevented from sloughing by a very free incision into the part on each side of the raphe.

Very often, after inflammation at the surface, we see more or less effusion into the cellular tissue, as well after erythema as after erysipelas, and the result of this infiltration is—long after the erythema has disappeared—the rapid formation of abscesses. In one, the first patients to whom I alluded in the female wards, a number of those abscesses formed in the scalp, several days after the disappearance of the redness of the surface, and we were under the necessity of making about six incissions into the scalp, for the purpose of evacuating the matter.—*Lancet.*

TREATMENT.

As regards the treatment of erysipelas, I caution you that although there is an appearance of strength and inflammatory action, there is no great power to sustain that action; and if you remove blood in any great quantity, the patient will be liable to sink rapidly. The type is very often, almost from the first of the typhoid nature—a low fever. Though it commences as an inflammatory fever, it is very apt to change into the typhoid. On looking over Mr. Wardrop's excellent book "On Blood-letting" the other day, I observed, that he mentions, amongst many other cases in which he recommends blood-letting, that of a lady labouring under erysipelas, to whom he was called, where, on entering the room, he found a quantity of wine and water by the bed-side, which she had been ordered to take, with bark, every hour. In that case, he says he changed the practice, and bled her three times. But that is a practice which I would not have you follow in all cases, though the lady recovered. You must be cautious in these cases, of resorting to blood-letting. You can take away blood by puncture, a practice first introduced by Sir Richard Dobson, with great relief to the vessels affected, allowing their serous contents to escape, and getting rid of the swelling—preventing, indeed, the formation of matter, or, what is worse, the destruction of the cellular tissue by sloughing.

In other cases, again, there is a great deal of effusion into the cellular tissue, between the coverings of the cranium, or in extremity, and you will be able abundantly to empty the vessels, to evacuate the effusion, and to accomplish your purpose, by having recourse to one or two incisions of no great extent. That practice, however, you could not follow in the face, with any propriety, from fear of producing deformity; but still you might employ there a great many punctures, which are preferable to leeches, because the bites of leeches very often become irritable, and rather tend to keep up the inflammatory action. Indeed, erysipelas very often follows the application of leeches. By those punctures you can remove as much blood as by leeches, and the patient certainly does not suffer so much. In the scalp you are very often called on to make incisions to evacuate the matter. Without them, in

fact, matter will form in very great quantity, in a large bag. Sometimes even sloughing of the fibrous tissue occurs, and, ultimately, the destruction of the patient. I have again and again seen sloughing of the aponeurosis of the occipital bone, where the patients have struggled through, in spite of the treatment, and in spite of the neglect, though a great many of such patients have died, You should therefore make the incisions, and at an early period, that is, as soon as the presence of matter is indicated. You are not to wait for the redness of the integument, or for the thinning and pointing of the abscess, but must make the incision into those parts which feel boggy. It is much better, indeed, that you should be disappointed occasionally in not finding matter, than that matter should be left under the scalp. In erysipelas of the extremities, where the formation of matter, or sloughing, is threatened, you must use pretty free incisions. The suggestion of this practice is claimed by modern writers on surgery, but the fact is that the old surgeons knew something about it, as well as the surgeons, of the present day. Here, for instance, is an old writer who says, that "scarifying the skin in gangrene, is a very idle practice, unless the surgeon hath sagacity enough, when the membrane is not destroyed, but only ready to suffer, to cut largely through both, and thereby let out the inflamed juices, and by that means take off the distention." If that is not to the point, I am very much mistaken. The writer proceeds to say, "In such an act, the surgeon shows both judgment and resolution, and such good treatment continued may cure the patient." There is just as much in this short quotation, as you will find in some of the modern essays.

Now it is not necessary to make an incision from one end of the limb to the other. Having searched out the point where the infiltration is greatest—where you think there is a certainty that the cellular tissue is broken up, and where the matter, if any be discharged, you should there make the incision; and one incision is just as good as half a dozen, or a very long or large one. the patient (Brown) from whom this sketch was made, was admitted into the hospital some time ago. He had received a blow on the point of the elbow. I do not know whether there was any wound: but if any existed it was small; but I again warn you, that those wounds over the point of the elbow-joint,—wounds of the fibrous tissue especially,—over *any* joint, are very apt to be followed by erysipelas. This bruise was followed by violent inflammation, and the patient had every appearance which is seen in this drawing, that is to say, there was a white appearance on the surface, which I attributed to the application of some cooling lotion or other, very likely containing Goulard's extract, and there was a great degree of tension and throbbing. Into the part which was principally infiltrated I made an incision, and a quantity of blood was evacuated, and sero-purulent matter—ill-digested pus. Immediately upon the incision being made the redness went off. In two days he returned here with a discharge from the wound, in no great abundance, perfectly healthy, and with the whole of the inflammation gone. The man was cured, in fact, upon the spot.

Now as a local application, I would recommend to you, in preference to any other, frequent fomentation, and with fluid of a comfortable temperature. You may have your liquid for fomentation, medicated or not, as you choose. Patients, however, are inclined to use, and persevere with, medicated applications much more readily than others. You may have simply a couple of bags, containing chamomile flowers in a basinful of hot water; one of those bags, after lying a while, is to be squeezed dry and placed on the part, and the two are alternately to be applied, hot and hot, for half or three quarters of an hour at a time. These applications are very grateful to the feelings of the patient, and give much greater relief than any other. They act beneficially by keeping the surface perspirable, promoting the discharge from the surface, and increasing, also, to a certain extent, the secretion into the cellular tissue,—a means which nature employs to relieve the excited capillaries. When effusion can take place readily into the cellulur tissue, the inflammation is of a milder kind, the patient suffers much less, and great advantage may be derived from increasing this effusion instead of preventing it. After the fomentations you may dust the diseased part over with some bland powder,—flour, or any thing of that kind,—with a further view of relieving the feelings of the patient and of protecting the tender and irritable surface. This prevents any sudden change of temperature, or blast of cold air, from repelling the inflammation; but you are still to foment, after the incisions or punctures have been made, from time to time, say three or four or five times a-day, according to circumstances.

I should have mentioned, in speaking of the constitutional treatment, that it was essentially necessary to put the digestive organs into proper order. The bowels must be empited, and any uneasiness which exists about the stomach and liver must be relieved by the application of leeches, and you will find a great advantage after the bowels are emptied, from the exhibition of small doses of antimonial medicines, combined, if you like, with a little calomel. The works of Desault, which were revised and edited by Bichat, contain an excellent memoir on this subject, where the practice of exhibiting small doses of antimony is recommended strongly, and this practice you will have no reason to regret. The antimony keeps down the force of the circulaton, it acts beneficially on the bowels, and it promotes the secretions generally, while undue inflammatory action exists. Afterwards it will be necessary to support the patient's strength by every possible means, by nourishing food, and in some cases even by wine and stimulants of one sort or another.

Now as a means of preventing the spread of inflammatory action, the nitrate of silver may be used, drawing with it a line beyond the skin which is affected, a considerable way from it. This practice has been pursued in both of those cases that are now in the ward, and very great advantage indeed may be derived from adopting it. The inflammation very rarely oversteps this line. How that happens I shall leave to some of you ingenious gentlemen to explain, but an action is evidently established in this way on the surface which is incompatible with the progress of the erythematous blush. The nitrate of silver is a very good application where there is but a slight degree of erythema, when it does not involve a large surface. Sometimes trifling crythema follows a puncture with a pin or a fish-bone, or something of that kind, impregnated with putrid matter; and when the inflammation is limited to a finger, or the back of the hand, the nitrate of silver may be rubbed on with perfect propriety. The inflammation in this way will be extinguished; but if a large surface is affected, the nitnate of silver, in driving inflammation from the surface, is apt to cause it to affect some other part, and an infiltration is very likely to supervene, so that, instead of the mere surface, the whole thickness of the chorion will be inflamed, and a considerable degree of swelling, and perhaps a destruction of the cellular tissue, will follow. My attention was directed to this a good many years ago, in treating a case of erythema of the hand. It was pretty extensive; it passed over one or two fingers, and involved the back of the hand to above the wrist. I rubbed the nitrate of silver over it, thinking I was doing no harm, but the next day I was under the necessity of allowing a quantity of putrid fluid to escape, by incision along the whole of the back of the hand, and I do not think the patient escaped without a considerable destruction of the cellular tissue of the part. This is of little consequence compared with the production of inflammation of the internal organs, which happens when the inflammation disappears suddenly, of itself, or when it is repelled by cold lotions. The patient then becomes comatose, or his breathing is embarrassed. It is found, indeed, to be much more easy to drive the inflammation to internal organs than to bring it back again. I have seen blisters and cauteries applied with the latter view, without effect. I have seen, both in public and in private, cases of erysipelas treated by the nitrate of silver, where the whole surface has been rubbed over and blackened with the caustic. In others limes have been drawn here and there, transversely, longitudinally, and "slantendicularly, as our transatlantic brethren express it. Some of the patients have done well; in others extensive destruction of the cellular tissue, with formation of diffused abscess, has occurred. This is very likely to be the case, and through the hardened and blackened epider. mis it is not easy to discover the mischief early enough to adopt the proper means for giving relief. I am not quite up to the *rationale* of the practice, or the precise intention of those who recommend and pursue it. I had once the pleasure of being a colleague with a gentleman who took the very odd notion into his head that he could cure all patients who were labouring under the disease in question by painting them over *blue*,—perfectly blue,—with mercurial ointment. I should think that long before this he has seen the error of his way.

I may add, that sometimes the mischief of erysipelas is not confined to the cellular tissue and skin only. Now and then even the *bones* are affected by it. Muscles are affected by it occasionally, and I have seen great portions of them slough out. I have seen a limb rendered perfectly useless in consequence of the destruction of the fascia and the muscles. Sometimes you find the hands contracted, and put into a very awkward position. Here is a specimen, in which the disease commenced with erysipelas, producing this effect on the bones, in the foot. The patient was treated by a physician, and a very rising one, now deceased, in a fever hospital; and whilst every thing was done, I have no doubt, to moderate the constitutional disturbance, the local symptoms were allowed to go on. I saw the patient when he was moribund. The whole limb was swollen, and he was then hectic; he was, in fact, in the last stage of existence. A few days afterwards he died, and I preserved the bones. See their condition. The local mischief had been going on for many weeks; the periosteum had been destroyed; the bone was penetrated by ulceration; even the knee-joint was involved; there was actually necrosis of several parts of the articular extremity of the tibia. Here is another specimen, where the disease of the bone was not quite so extensive, but where the disease commenced also in the skin. It was a violent case of erysipelas. In fact, however, I do not know what you would call it. Erysipelas has been denominated "phlegmonous," "gangrenous," and "œdematous;" but the termination in one or other of these ways, must depend very much upon the skill and activity of the surgeon. It will neither be "phlegmonous," nor "gangrenous," nor "*necrotic*" (to coin a new adjective), if the surgeon knows what he is about, and gets the patient under his care early enough in the disease. There should be no *destruction* of the cellular tissue, far less of the skin or of the bone in those cases.

I do not think, gentlemen, I have anything else to say on this subject on the present occasion.—*Lancet.*

WESTMINSTER MEDICAL SOCIETY.

Saturday, Nov. 14, 1835.

Mr. Richard Quain in the Chair.

MINERAL MAGNETISM.

Dr. Schmidt (of Berlin) was announced to read an essay on the application of mineral magnetism for the cure of various nervous dis-

eases. The subject occupied attention during the greater part of the evening, and was adjourned finally to another meeting. In introducing his subject the author premised that mineral magnetism was totally distinct from animal magnetism, and that the magnetic influence acted solely on the nervous system. He then gave a history of the science, and described the doctrines of all authors who had advanced opinions on the subject. In accounting for the magnet having fallen into disuse, he said it arose from an opinion that the cures effected by it were not lasting, the reason of which was that the magnet was never applied systematically, and only by way of experiment. To accomplish cures, powerful instruments must be employed; for the minor magnets could only remove trivial diseases, and even in them frequently failed. Of the instruments employed three were named; first, the *horse-shoe magnet;* second, the *magnetic staff;* third, the *magnetic plates*. The curative power of the first is in direct proportion to its power of attraction, and that is the chief instrument employed to perform magnetic cures. The five-fold *horse shoe magnet* consists of five simple horse-shoe magnets horizontally placed, and closely adapted one to the other, the centre magnet being the longest and thickest, the others each gradually diminishing in length and thickness, the arrangement being thus made in order that the power of attraction might fall in the centre, or rather, that each magnet might not be exerting its influence on the needle at the same time separately,—for its power of attraction then would be only $5 \times 5 = 25$, instead of $5 \times 5 \times 5 = 75$, its cube. The power of these may be made to vary from 70 to 120 lbs. Larger magnets are only necessary in extreme cases, or where it is desired to transmit the magnetic fluid to interior organs, as in cases of deafness, for then magnets of from 200 to 500 lbs. power of attraction must be employed; of which power he (Dr. S. has constructed some. The *magnetic staffs* are only applicable in cases of toothache. The *magnetic plates* are used where the horse-shoe magnet cannot be applied; as when magnets are required to be fitted to any part of the body. For the treatment of diseases with either kind, either powerful instruments were used from time to time, or the continual influence of magnetism was employed, by the patient wearing small magnets for some time on the part affected. The former is either tropical or general, and employed in a certain order, with one or two poles, and with one or two instruments, always following the course of the nerves in passing them. According to the theory hitherto followed, it is supposed that the "friendly" poles as they are called, ought to be placed opposite to each other, in order to lead a magnetic stream through any part of the body. The reverse he (Dr. S.) would prove to be the fact. (This was demonstrated with a sheet of cartridge-paper placed between the magnets and some iron-filings, and with a bar of soft iron placed between the magnets.) For the application of magnetism, the patient may be placed in any position. If the eyes are to be operated on, the magnet is fixed for some minutes on the eye itself, and then passed several times across the upper and lower edges of the eyelids, commencing at the corner of the eye; and then several times from the forehead downwards, in such a manner that both eyes are touched at the same time. Sometimes the desired effect is not produced until the poles have been changed several times. For deafness the patient is seated between two magnets, so that the poles exactly fit in the plates of two small instruments, which are introduced into the organ. These instruments are made with an oval dise, one inch long, and half an inch broad, of soft iron, in the centre of which is fixed a black pin, one inch long, and one line in thickness. The operation may last from five to fifteen minutes. The magnet is then placed over both sides of the head downwards. For the toothache, he (Dr. S.) usually fixes the north pole first on the painful tooth, and if not relieved, then applies the south. If obstinate, he touches the gums with either of the poles, or passes them across the cheek, where the pain is most acute. The magnet should be first warmed. The general magnetic treatment ought to succeed the topical, especially if debility exists. The last division of this subject, Dr. S. divided into the effects of magnetism on the healthy and on the unhealthy. As to the first, we need simply say, that until he proved to the contrary, mineral magnetism, Dr. Schmidt said, was always declared to have no influence on healthy parts. Secondly, on the sick, magnetism is either soothing or exciting. Dr. Becker says, "Very often the patient considers that he has no sensation at all from it, but generally in the course of time, he experiences an effect from it." The sensations are, with some slight modifications the same in all cases, viz., cold, warmth, increased sensibility, and pulsation, and numbness and insensibility in the part effected. These sensations, except the last, increase gradually, and then become weaker until at last they disappear entirely. Dr. Schmidt concluded his paper, by saying that the effects of magnetism appear very often instantaneously. That they are not local, and that the diseases in which magnetism exerts a curative power, are those in which the sensibility or mobility of the nerves is heightened, or where the nerves are over-excited, as in ticdouloureux, headache, &c.; in spasms of the stomach, palpitation of the heart, hooping-cough, epilepsy, and convulsions: or where in the nervous system there is a want of action. Also, in some diseases not purely nervous; as in rheumatism, gout, suppressed menstruation. During the catamenia, or during pregnancy, it must not be used. Lastly, The Doctor said that it was his conviction, that magnetism deserves a preference over all other remedies, in the diseases above enumerated. At the end of his Essay, Dr. Schmidit read an extract from *Hufeland's Journal*, for September last, speaking in

commendatory terms of the science of magnetism. Dr. Schmidt then showed that the power of a magnet might be given to iron, or destroyed in a few seconds, a fact which was first made known by Dr. S. The process of destruction consisted in passing down the poles of one magnet, against the like poles of another magnet, commencing at the curve of the instrument. To reproduce the power, the poles were reversed in the passing motion, commencing also at the curve. Dr. Schmidt attached considerable importance to this experiment, for he says that when the power of the magnets becomes deteriorated, it is easily restored; and failure, which must frequently before have attended its application for the cure of diseases, could now be readily obviated.

Saturday, November 21st, 1835.

Dr. ADDISON, President.

MINERAL MAGNETISM.

The subject of mineral magnetism was again introduced this evening, with much amusement, though not with much profit, and the discussion was closed with an intimation from some of the members, that the turn which it had taken was not consonant with the objects of a medical society. Dr. Schmidt, of whose talents it was impossible to avoid forming a favourable estimate, and who addressed his audience in the English language with a correctness which many speakers of our own nation might be glad to reach,—re-commenced the subject by repeating some experiments, concluding, however, rather abruptly, and leading the discussion into a direction which lost for magnetism its chief claim on the attention of the Society. One experiment was designed to prove the discovery of Dr. Schmidt, that more magnetic power exists between the north poles of two magnets (a space intervening between them) than between the south poles, and that therefore in employing horse-shoe magnets on a limb, it was erroneous to oppose, on each side of the limb, a north pole to a south, and a south pole to a north, as the remedial process had always hitherto been performed, and always, consequently, with less success than by his (Dr. S.'s) mode. Testing this statement by experiment, the result seemed to bear witness to the correctness of the allegation.*

The experiments called on his legs Mr. Bird, who gave, some designation to them which Dr. Schmidt did not consider very courteous. Considerable disputation resulted, for Mr. Bird denied the correctness of almost every proposition of Dr. Schmidt, and then, between various parties, began a series of not very obvious, or very conclusive, or very-well-explained experiments with magnets and iron filings, accompanied by diagrams on a black board, all, too, so purely theoretical, that a *moral*, only,—which there is no need to explain—could be drawn from them. Yet the exhibition was tolerably entertaining, and might, had the philosophers been better agreed as to first principles, been useful to a majority of the audience, of whom Dr. Johnson afforded a good specimen, when with rather unhappy look, he remonstrated, at the close of two hours, on the time of medical men being occupied so long on the mysteries of "north poles" and "south poles," magnetism by direct procedure, and magnetism by induction. "Let us know," he prayed, "what diseases magnetism will cure. We care not what influence it exerts over mariners' compasses, or bunches of keys, or steel dust."

Mr. Bird declared, as we have said, that Dr. Schmidt's proceedings were all "flimsy" and pronounced the chief results to be the simple results of magnetism by induction Mr. Bird, however, was himself sharply hit on the knuckles by Mr. Everitt, who suddenly interfered, "in order to save the time of the Society, to remind the young gentleman that those who were better acquainted with the subject did not admit the truth of the positions on which Mr. Bird was basing the whole of his objections." Mr. Bird, in fact, was proceeding to prove that the relative quantity of the magnetic fluid at the positive end of a bar of soft iron, would be shown by the power of attraction exerted by it over particles of iron filings represented thus, $\times 3 - 2 = 1$; or, that in the horse-shoe magnet, at its north or positive extremity, the magnetic influence would be represented by $\frac{2}{3}$; at its angle or intermediate space by 1; and at the south, or negative extremity, by 0. This problematic experiment Mr. Everitt sought to show was in direct opposition to the "indisputable fact," that if a bar of iron were divided into any number of parts, no piece or division of it would contain more magnetic fluid than any other, provided the size of each division or compartment was exactly of the same size as each of the others, and if the division be carried down ever so low, the fact would, we contended, still be obvious.

Mr. Bird met this charge by declaring, as he did on each other occasion on which an experiment or argument was used against him, that he regarded it as a beautiful example of the theory he himself wished to advance; but having stated the theory and the objection, we must be content, from want of space, without giving further details on this point. Mr. Bird apologized for presenting himself to notice, and stated his object simply to be to defend the reputation of several

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* Dr. Schmidt also showed a method of obtaining the magnetic spark by means of a very simple apparatus, constructed as follows:- A piece of soft iron, round which a copper wire is twisted, the extremities being amalgamated with quicksilver, is placed over the poles of a magnet. On one is fixed a small copper plate, and the connection being then forcibly broken, the magnetic spark is vividly produced.

great men whose views were opposed by the theory of Dr. Schmidt.

A degree of interest was here given to the disputation, by the reply of Dr. Ritchie to a call from several members for his opinion on the points advanced, but we are compelled simply to say that that gentleman with much clearness developed the best-accredited views on some points in magnetism, commenting briefly on the theories expressed by previous speakers, which, however, ingenious, he did not consider correct in many respects. Circumstances, however, which we cannot stay to explain, prevented the impeachment of Dr. Schmidt's views from being sustained. Indeed, the time and apparatus did not admit of experiments in any respect conclusive upon any important point under debate. At the next meeting the medical division alone of magnetism is to be canvassed, when the subject will most probably be concluded. We may here observe that Dr. Ritchie stated that he was not of opinion that magnets generally could be advantageously used in the cure of diseases, though he certainly had seen one or two very curious results follow the application of the galvanic battery. In justice to Dr. Schmidt, we may state that he appears to be perfectly candid and open in all his explanations relative to the "mysteries" of mineral magnetism as a remedial agent in disease.—*Lancet*, 1835.

HEMORRHOID IN THE RECTUM,

FOLLOWED BY

ABSCESS IN THE PERINEUM

WITH FISTULA, RECTI, ETC.

To the Editor of The Lancet.

SIR,—As the following case will, perhaps, be considered to possess some practical interest, I shall feel obliged by its insertion in the pages of your journal. I am, Sir, your obedient servant,

ROBT. ROMLEY CHEYNE.

57, Berners-street, Nov. 11, 1835.

Mrs. K. ætat. 50, of a sallow complexion and spare figure, house-keeper to one of the West-end Club-houses, consulted me on the 22nd of last August, for what she called very uneasy sensations, with extreme weakness, about the loins and hips, and severe pain in the calves of her legs, increased by walking, or any exertion. She had thus suffered during two months, and knew no cause for her complaint. The menstrual secretion ceased six years ago, since which time, until lately, she had been perfectly well. She had never, to her knowledge, had piles, nor passed blood by stool. The bowels acted regularly, and without pain. She had never had leucorrhœa; her constitutional symptoms, when I first saw her, were not severe, the pulse being very little quicker than natural, the tongue only slightly furred, and the skin cool and moist. She experienced, however, much anxiety (which was expressed in her countenance), from the apprehension of permanently impaired health.

This history, I must confess, induced me to consider the case as one of sciatica, and (acting on that idea) to recommend very moderate diet, gentle aperients, thirty minims of *Vin. Colchici* in *Mist. Camphoræ*, three times a day, and the use of the warm hip bath every night at bed-time.

This and similar treatment, continued until the 26th, afforded partial relief; but still there existed a sensation of weakness, and, lately, of soreness, about the hips and perineum; and once, when at stool, a slight pain had been felt shooting, through the anus. From these facts I now hoped to obtain light enough to dispel the obscurity of the case. As I was aware that diseases connected with the rectum often assumed very anomalous characters, an examination *per anum*, was immediately proposed, with the view of ascertaining whether the present was a case of that nature. The result was, the detection, about an inch within the anus, on the floor of the rectum, of the presence of a soft elastic hemorrhoid, of the size of a cherry surrounded by some thickening and swelling, as if the coats of the bowel were pushed inwards by fluid in the vicinity. The impression, too, of distinct fluctuation, was given to the finger, when forcible pressure (which gave no pain to the patient) was made by the other hand, on the perineum. All doubt being now cleared away, the proper practice was evident. The contents of the abscess should have been at once discharged through a large opening, and then, in all probability, my patient would have been well in a few days; nothing, however, would induce her to consent to my request: she could not imagine the existence of an abscess without much more pain than she experienced. Under these circumstances nothing more could be done than to advise her to keep quite quiet, to take a teaspoonful of *Elect. Sennæ* every night, and to inject an enema of warm water every morning.

Thus the case proceeded until the 1st of September, when I was hastily summoned to my patient, whom I found suffering acute pain in the perineum, the integuments of which were now of a livid red colour, hot, and swollen, and acutely on pressure. There was, also, as might be expected, a great deal of symptomatic fever. The application of twenty-four leeches was immediately ordered, and afterwards a warm poultice; and in the evening these measures were repeated, and an anodyne draught was administered.

The next day the pain and swelling were less; but there was more fever, and some difficulty in making water. No further opposition being now offered, a free opening was made near the anus, when more than half a pint of dark-coloured offensive pus, with bubbles of gas, escaped, to the surprise of the attendants, and with great alleviation of the

severe pain and feelings of tension in the part. A poultice was then applied, and directed to be repeated three times a day, and an anodyne to be taken at bed-time.

Sept. 3. Has had a restless night; pulse 120; tongue loaded with a brown fur: copious discharge, mixed with sloughs of cellular and adipose tissues. Complains still of much soreness and distention about the perineum; to relieve which, another opening was made, and a great quantity of pus flowed out.

R Ammon. Subcarb. gr. xvj; *Acidi Tartarizi* ℈j; *Aq. Distil.* ℥ iss. M. etint effervescendum 6ta quaq. horâ sumatur. Contin. catap. et haust. anod.

4. Has had a better night; looks less anxious; pulse 110; bowels open; no difficulty in making water; copious discharge, and the sloughing continues. Cont. medic. et catap.

7. Has been improving for the last three days. Sloughing has nearly stopped; no pain; less fur. Cont. medic. et catap.

The three weeks following the last report were spent in aiding the efforts of nature to repair the extensive mischief, which as has been seen, was the work of only a few days. During this time the sloughing process had converted the incisions of the lancet into a deep cavity surrounding the intestine, laterally and posteriorly, discharging at first an unhealthy pus, which, however, improved in quality, in proportion as the constitutional vigour of the patient was restored under the use of tonics and good diet. Strong astringent lotions were also employed, of which those composed of *Sol. Chlor. Calcis*, and port wine and water, seemed the most effective. The stage of granulation at length commenced at the bottom of the abscess, and continued until all, save a fistulous canal, had been filled up, which, when traced with a probe, was found to communicate with the bowel in three places—viz. one, two and half inches from the anus; another, *through the centre of the hemorrhoid* above alluded to, and the third close to the base of the latter.

As it was now evidently useless to waste time in the effort to cure the fistula without the operation, this was performed,—the incision dividing all the parts included between the highest opening into the intestine and the anus. After this the granulating process re-commenced, and went on until it reached the situation of the two other points of communication with the rectum; and now, instead of again using the knife (as the hemorrhoid could be readily drawn out with a hook), a ligature was tied round its base, including that portion of the mucous membrane in which the third small aperture could be distinctly seen. In three days the ligature came away during the action of the bowels, and from that period the case proceeded so well, that towards the close of the month Mrs. K. went into the country quite recovered, promising, however, to continue the use of an enema of warm water twice a week for some time, in order to ensure the regular action of the bowels.

REMARKS.—This case is full of interest. It shows the fact that large collections of matter may take place in the neighbourhood of the rectum, without being preceded by the usual inflammatory symptoms, or, indeed, by any that are distinctly diagnostic; and no less clearly does it prove the great importance of freely opening abscesses in that situation at an early period. To the refusal of my patient to submit this practice, all the subsequent mischief was to be attributed. Inflammation, once set up in a tissue possessing such feeble vitality as the adipose (especially in individuals of an unhealthy habit), is very little under the control of antiphlogistic treatment. Leeches, which, undoubtedly, should be applied in large numbers followed by poultices, relieve the pain, but do not materially retard the sloughing process when it has once commenced. Indeed, we can do little more, when the case has so far advanced, than support the patient as much as possible, and aid the escape of the sloughs as soon as they are loose; for these lying in contact with the living structure, cannot fail to prove a source of irritation.

Most abscesses near the rectum, forming, as in the above instance, in a passive manner, are perhaps connected with some cause of obstruction to the return of blood through the hemorrhoidal veins, and hence frequently coexist with piles. In our present case, the secretions of the rectum probably found their way through the hemorrhoid (which was also, in fact, what is called "a blind internal fistula") into the surrounding tissues, and this excited an irritation which led to the formation of the abscess; but in bad constitutions, a varicose state of the venous plexuses in the adipose tissue of the perineum, with the consequent imperfect circulation in the capillaries, is quite sufficient to explain the occurrence of suppuration.—*Lancet*, 1835.

GERMAN JOURNALS.

Hufeland and Ossan's Journal.—June and July, 1835.

SCIATICA CURED BY OPENING THE SCIATIC NERVE.—In many cases (says Dr. Lowenhard, the author) of obstinate sciatica, the cause of the disease is unknown, and all the remedies which are applied fail to relieve the patient from the dreadful and constant suffering to which he is exposed. The effect of division of the branches of the third pair of nerves, has induced some surgeons to recommend a somewhat similar operation for those of the extremities, and M. Jobert a few years ago divided and removed a portion of the sciatic nerve for obstinate sciatica, but we do not at this moment remember what the result of that bold operation was The following case, though not exactly of the same nature, deserves to be recorded.

CASE.—Mr. B, 38 years of age, of good constitution and sanguineous temperament, was seized with pain in the region of the left hip-joint, in consequence of some violent exertion. The pain continued fixed for about two months, and then extended downwards in the direction of the sciatic nerve. After the expiration of six months, the pain became so severe that the patient was unable to place his foot on the ground. He now demanded medical aid for the first time; various remedies were tried in vain, and he came under the author's care in six months afterwards. The patient was now much emaciated; the injured limb particularly reduced in size, and the heel so painful that the patient could not stretch out his foot without aid, and had the most acute suffering. A cord about the thickness of a finger could be felt under the skin, in the course of the ischiatic nerve, which was thrown up into a kind of tumour; this part was excessively tender to the touch; the bowels were costive; the urine deep red, and throwing down a dirty sediment. After some reflection the author conceived that perhaps the swollen nerve contained a watery fluid, as in the case mentioned by Richter (*Speciel. Thera.* part 2, p. 79), but how to give issue to this fluid was the question of most importance. A simple incision would easily have produced the desired effect, but it was necessary at the same time to impress a stimulus on the muscular system; the author therefore determined on employing the actual cautery, which was applied immediately to the nerve, where it passes between the trochanter major and the tuberosity of the ischium: on the iron being pressed with some force into the bottom of the wound, two to three ounces of a yellowish-grey fluid came away. The wound was then dressed with some mild salve, and as the patient was nearly in a fainting condition, he took a restorative.

The day after the operation, the patient was more oppressed and weak, uneasy, and with a very small pulse. Some stimulants and cordials were given. On the 21st same state; the wound still discharges a little fluid, and was dressed with ung. canthar. The pain of the foot has now changed into a dull sensation, the patient slept a little this night for the first time since many months.

22. Passed a good night; he can now stretch out his foot without aid; the wound suppurates abundantly. In the course of eight days the patient recovered a good deal of strength; a considerable quantity of a greyish fluid, different from pus, was discharged from the wound. The injured limb increased rapidly in size, after a lapse of some months, during a part of which the same discharge continued, the patient was perfectly cured.

There can be no doubt, from several cases which have been published, that water may accumulate in the tissue uniting the medullary filaments which compose a nerve, nearly in the same way as in hydrocephalus. The author is inclined to attribute both phenomena to a similar cause, namely, chronic inflammation. In the present instance it seems probable that the capsular ligament of the hip-joint was also involved in the disease, and that the quantity of fluid subsequently discharged was in part furnished from the joint itself.—*Ibid.*

ON THE

TREATMENT OF FRACTURES

WITHOUT THE AID OF SPLINTS.

By W. C. RADLEY, *Esq.*, *M.R.C.S.L.*,

Newton Abbott, Devonshire.

The importance of the primary treatment of fractures during the first three, and up to ten days, of itself constitutes an apology for stating what every surgeon knows, viz., that the weak lotion of a solution of superacetate of lead, in the proportion of a drachm to a pint of pure water, can be converted into a decided astringent and repellent, in cases of tumefaction, by adding sixty or a hundred grains of alum to the lotion. I know of no better lotion to fulfil the latter intention than such an application, to wet a bandage. "Pour le plaisir de changer," we have the *liquor aluminis compositus* of the London Pharmacopœia, perhaps too strong by twice over; but that can be modified *ad libitum*. With these, and a watery solution of opium, and many other vegetable infusions of the narcotic sedative class, we need not imitate our Gallic neighbours in the use of their "Eau de Vie," in every case of recent injury. When, indeed, there is danger of a loss of vitality through gangrene, we may apply a fermentive cataplasm of yeast to the wound, and bathe the surrounding parts with the brandy aforesaid; but as this state of things is the inevitable consequence of previous and too violently increased action, running into mortification, the surgeon will use every gentle means that mercy can devise to prevent such a catastrophe, the best being found in proper agents to allay heat, which spirit or brandy would create and excite.

Page 382 of Sir Astley Cooper's "Treatise," contains his "general directions for the treatment of compound fractures of the fore-arm," which run thus:—"The arm should be supported upon a splint, so as to be kept perfectly free from motion." And I should for the same reason place the arm, the leg, or the thigh, upon a soft pillow. What! rest a sore limb on the narrow line of a splint board? Bid me repose on the bars of a gridiron! To think of keeping a limb "perfectly free from motion" there, is absurd. If you wish your patient *not* to be easy, *not* to enjoy repose, nor to keep his limb still, lay it on a splint. Again; "evaporating lotions should be applied;" but of what use can they be when the immoveable bandage confines the hot vapours close around the limb? "And the limb should not be disturbed,"—true, but foreign aid creates more disturbance than

the injury itself,—" unless the patient has symptoms of a suppurative proccss, when a small opening should be made in the bandage, to allow of the escape of pus, but still the bandages should be suffered to remain,"—that is, all must remain in *statu quo;* no one must examine the seat of injury. Like the man with the iron mask, every feature of the disease must be hidden from scrutiny, the masked partly himself not daring to remove the dressings in which his limb is incased. " The bandages are suffered to remain." The patient treated in this way, finds that he has much to *suffer* besides the bandages. " The patient should be bled from the arm if the inflammation and constitutional irritation be considerable." " Certainly," said I, two years ago, after perusing the "Treatise," and transcribing the passage, in the excitement of the moment I added the following remarks :—" If it was, for some unknown reason, a *desideratum* to produce local and constitutional irritation, and to urge on that irritation to active inflammation, I know of no plan of treatment so likely to produce those mischievous effects as the above-recommended, long-continued pressure on a pierced, lacerated, and fractured limb, where the natural sensibility is vastly increased by diseased action."

I now retrograde to page 173 in the " Treatise," which relates to fractures of the lower portion of the thigh, *in the joint.* The treatment is thus described :—

" *The limb is to be placed on a pillow* in the straight position, and evaporating lotions and leeches are to be used, to subdue the swelling and inflammation. When this object has been effected, a roller is to be applied around the knee, and a piece of stiff pasteboard, about sixteen inches long, and sufficiently wide to extend entirely under the joint, and to pass on each side of it, so as to reach to the edges of the patella, is to be dipped in warm water, applyed under the knee, and confined by a roller. When this is dry, it will have exactly adapted itself to the form of the joint, and this form it will afterwards retain, so as best to confine the bones. Splints of wood or of tin may be used on each side of the joint, but they are apt to cause uneasy pressure. In five weeks passive motion of the limb may be made, to prevent anchylosis."

In the first part of the quotation I only glean negative support for my pillow-mode of curing fractures; but new light soon breaks in upon my plan,—original with me, because twenty years ago (I confess at that time I had not read Pott), from the first day to the last of my attandance on a case of fracture, no other basis was employed on which to rest the limb, but a pillow and the bed, nor other restraint used than a bandaging nor other means than lotions, to accomplish a cure.

The case of Sir Astley is one of the worst of fractures, and as it is a most painful one, the limb is directed to be placed on a pillow, with *a piece of pasteboard* sixteen inches long and of goodly width, *interposed between it and the injured joint*,—a splint in a modified form! Venerable fathers of surgery, who have departed, just look over your shoulders, and see what a motley group ye have travelling behind yc! *Plaster-of-Paris dealers*, looking for orders to incase immoveably straight a fractured limb; *carpenters*, with their boards and glue; *tea-tray-makers*, with japanned splints; *iron-mongers*, with tin splints; *blacksmiths*, with iron-plate splints; *Hindoos*, with cane splints (better be applied to some backs than broken legs); *sailors* from the Arctic seas, with Martin's whalebone splints; *milliners* with pasteboards, for Sir Astley's splint; and *breeches-makers*, in the rear, with straps and buckles to bind the broken ends of bones together. How many more I cannot stop to say, for really this system ought long since to have passed the rubicon of humour and raillery, and journeyed into oblivion. Had the wards of Sir Astley directed fractured limbs to be placed on pillows without a splint between, his great authority would long since have rendered my puny efforts to banish the present system needless. Had Sir Astley pillowed up his patients, as I do mine, I should not now have been attempting to do my best to save future painful throes to those whose nerves are racked with pain in and out of hospitals under the torture of tight bandages and hard splints.

" But, perhaps," say some, " the splint is padded, and the pasteboard is wetted, therefore they are soft and yielding; what harm, then, can they do?" I ask, " What good can they do, which the simple pillow would not effect? Are you not thus striving to approach the pillowy mode? You have relaxed a little, and softened down your treatment, in an *extremely painful case;* and if the pillowy mode is the best in a desperate case of fracture, how much would it advance the cure in every common and less dangerous case." Take this syllogism: The application of a pillow is right in the worst and most painful cases of fracture. Why? Because of the pain. But every fracture is painful; *ergo*, every fracture should have a pillow But Sir Astley recommends stiff pasteboard, macerated in water until it become so much softened as to admit of its being moulded to the shape of the part. I grant that this is the least objectionable of the tribe or splints; but even this is unnecessary, and inflicts a modicum of pain, which, even, is injurious. Soaked pasteboard, or light millboard, is only useful to envelop the arm or the leg of a person who must prematurely labour after a fracture. In this way my instructor, a talented surgeon, (Dr. John Hughes) of Liverpool, was accustomed to use these materials nearly thirty years ago.

One paragraph respecting the more argumentative reasons why the splint is employed, and I quit reasonings for facts. A judicious writer (Mr. S. Cooper) says, " Hence there is a necessity of employing means for fixing the broken limb so effectually, that it may continue perfectly motionless during the whole time requisite for the union of the fracture." The truth of this I positively deny. It is *not* necessary that any limb,

with any kind of fracture, should be kept so perfectly motionless. True is it that Sir Astley Cooper, at page 382 (before quoted), says, "The arm should be supported upon a splint, so as to be kept *perfectly free from motion.*" These latter words are synonymous with "perfectly motionless." They echo the same sense. But in page 97 of the "Treatise," there is a discrepancy with some of the contents of page 382. In a note to that page, speaking of common fractures external to a joint, Sir Astley gives the following important monition :—* "I find, by moving the bone from time to time, that in proportion to that motion is the quantity of callus produced." Of course callus means ossific matter. The more motion, the more bone. Nothing can be plainer. So much for the theory of perfect immobility,—a theory founded on erroneous perceptions. Of course too much motion would produce great mischief, and as to the due quantum, "wisdom should be present to direct it."

Another argument used by the defenders of splints is this, that splints keep the extremities of the fractured ends of the bone in contact. Attend to Sir Astley Cooper's admission on this point; I quote *verbatim*, as in all the other instances :—"When a fracture occurs amidst muscles, those which are inserted into the fractured part of the bone, have generally a tendency to keep the extremities of the bones together, with some few exceptions." Why then use splints? The display is one of false science to effect what nature does by a natural process. If this in the generality of fractures be true, (and what good surgeon will deny it?) the arguments for splints are a waste of breath, and the simplest mode of cure should be at once admitted in their place.

I shall now aim to prove, that in no case of fracture whatever (that of the radius sometimes excepted) is anything more required than a strapped pillow, with its padding, a tailed bandage, and such lotions and dressings as it may be proper to apply to the surface of the limb. Simple fractures being by far the more numerous, are those with which we shall have most to do. The "exceptions" are fortunately few, and if they (attended, as they too frequently are, by desperate and complicated circumstances) cannot be cured, they must, I suppose, be placed in the "chapter of accidents," in the usual way. My theory and practice shall be drawn from *bonâ-fide* cases,—not manufactured to support views that need the friendly aid of fictitious patients.

Case I.—Mr. Moses Crossman, sen., of the village of East Ogwell, in 1819 fractured his tibia by a fall from a horse, or, I rather think, by his horse falling with and upon him. It was a very bad simple fracture, attended with tumefaction and pain. One unfavourable and vexatious circumstance was (too common in country practice) the distance which I had to travel before I could get to the residence of the patient. Although there was much swelling in this case, yet an aluminous lotion and a tailed bandage, with the aid of a pillow and straps, cured this fracture in five weeks, when Mr. Crossman quitted his bed altogether for the day.

At this period, every case of fracture was a battle of words between the friends and myself, about the non-employment of the splints: in the present case, the Rev. Mr. W——e called in while I was engaged in the remedial operations on the leg. His stay was short. It developed a few questions on the "usual means" of curing fractures, accompanied by a look of contempt at my simple mode, and ended in a sneering sentence, muttered in the door-way, about "dabblers in the art." I only smiled, allowed the ill-bred gentleman to go his way unanswered, and resolved to persevere in my plan of curing fractures with as little pain as possible to the patient, who in this case was a healthy man of forty-five, who, as I have said, soon got well, and prided himself as much after the fracture on his small leg with a light low boot, and fine muscular calf, as he had done before it, and with as good cause.

Case 2.—This occurred nearly seven years ago, and shall be related at greater length because more witnesses can be cited to prove the truth of the details. Mrs. Alsop, about seventy years of age, in the month of April 1829, was placed in great peril by the fall of a stack of chimneys during a storm, which dashed, with the roof under it into her bed-room. I then resided in the adjoining house. Hearing an indefinable crash, I dressed, and hastened into the street, and soon found my way to the scene of danger. The bed was demolished, and the old lady lay under a great weight of bricks, slates, rafters, &c. On being removed from her alarming situation, the tibia of one leg, and the fibula of the other, were found to have suffered the injury of simple fracture. Mr. Charles Gaye, a surgeon of valued professional ability, whose friendship I have long had the happiness to possess, was also called in; as also was Mr. W. Y. Bond, another surgeon, who usually attended the family, the extent of injury done to the vital parts not having then been ascertained. But as I was first present, the more immediate care of the patient was willingly confided to me by Mr. John Alsop. We (the surgical trio) now formally deliberated on the case, and the best mode of securing the fractured limbs, when the following dialogue occurred.

Mr. Gaye. "Why, Radley! where are your splints?"

R. "I never use any; I have not used any for many years."

Mr. Gaye. "Where is your authority for that practice?"

* Some hypercritic may object by saying, that at page 97 Sir Astley speaks of common fractures, and at page 382 of those which are compound. But no one will venture to say, that what is safe in a common fracture must be inadmissible in a compound one. Fracture is fracture, and the *nature* of either case is the same.

R. "I have none but my own experience, that splints are useless in fractures."

Mr. Bond. "What! set a fractured bone without splints? I never heard of such a thing in my life!"

Mr. Gaye. "Nor. I."

R. "Well, let me have my way on this occasion, and you shall have yours another time."

The concession was granted with a good-natured smile of incredulity from Mr. Gaye, and a polite assent from Mr. Bond.

Mr. Gaye. "Proceed. We will look on."

Three lengths of tape, each of two yards, were each doubled, and laid on a common feather-bed, and on these straps a feather pillow, beaten smooth, was laid. Boyer would have exclaimed "C'est tout trop doux!" It is all too soft! Pardon me, say I, it is not too soft in any case. A sixteen or eighteen-tailed bandage, I don't remember which, was laid on the pillow, and the patient carefully removed to the bed, and the most painful limb, that with the fractured tibia, was placed on the pillow. A reduction was then gradually and effectually made, the tails of the bandages were lapped over and over, and the sides of the pillow were brought to the sides of the leg, gently supporting it *in situ*, while the straps became a threefold means of keeping all steady. To support the foot, a piece of tape was sewn to each of the lower corners of the pillow, and tied close underneath the sole, which it supported much easier and better than does the usual "foot-board." My two friends assisted me, with many a humorous wink.

The leg was placed in the straight position, and rested on the calf and the heel. In order to relax the muscles to the half-bent state or the degree of semiflexion, a large piece of flannel, perhaps a petticoat, is, in such cases, inserted between the pillow and the bed, for the purpose of raising and bending the knee-joint. The leg now presents the usual *declined* plane. The femur is a little thrown towards the pelvis, until the most important of the flexor and extensor muscles of the thigh and leg *lie at ease*. The under surface of the pillow was, in the present case, padded up, here and there, to support the small part of the leg, until the patient, after frequent and cautious inquiries on my part, declared that the limb seemed to lie with an equal pressure on every part. This latter circumspection is very necessary to be observed. Now look at the limb! As steadily supported as a ship resting in the stocks, and yet on so soft a basis, that nothing in it gives pain or uneasiness. What principle of surgery ought to have prevented this limb from lying in so much comparative ease, and the patient from reposing thus quietly? She did repose; and all persons in cases so treated, will repose likewise. All injuries will excite increased action, and produce some degree of heat, tension, and pain. The next morning my patient complained a little, and the surface of the tibia and the fibula of the other leg (treated much in the same way as its fellow, but with a different position, being placed on its side) were moistened with the *Lig. Ammon. Acet.* much diluted. The skin having been previously sponged with tepid water, the bandages, wetted with the lotion above, were laid on, and a hoop, fastened to the sides of the bedstead, supported the bed-clothes on the arch of its space, and prevented them from pressing on the toes or any part of the limb, and aided to keep it cool.

The tumefaction was moderate, as was the pain, because the heat was not allowed to remain confined long enough to produce its exciting effect; and as to other irritating causes, there were none, save that of the injury, the force of which had been very great, and at the end of a week caused great tenderness on the surface, the nervous papillæ being very irritable. *Tinct. Opii. Spir. Vini Rectificat.*, and *Tinct. Hyosciami*, were alternately used, with a pledget of lint, bathing the surface over and over again while any undue heat remained. Invaluable is this mode. The matter of heat readily unites with sulphuric ether, or a strong pure spirit, and flies off. The main point is not to reduce the natural heat of the limb much below, nor let it reach above the natural standard. On this hinge turns the state of suffering or of ease in these cases. Living so near to my patient, I was enabled to attend to this frequently. Indeed, she found the heat, pain, and soreness, thus fly off together so certainly, that I was summoned whenever there was a little return of pain. But the nurse was well able to attend to it, by turning off the tails of the bandage, wetting them, bathing the limb, and replacing the bandage as before. This was done perhaps twenty times in the day and night for a short period, and with the aid of a sedative and narcotic draught at night, and occasional doses of ol. ricini, she made good progress towards a cure. As for the incessant care with which I attended this case, and which, in narration, may seem tedious, to me it was not tiresome, though no one has a greater dislike of vicious irritability in the temper of a patient, excited as it sometimes is by factitious wants. But such a case as this (and there are many such) demanded every care. The patient was a feeble, aged woman, with all the querulousness of numerous years upon her, justifying and amply repaying the frequent treatment of adjusting the pillow by padding here or there under it, or the occasional insertion of a little cotton wadding between the pillow and the leg, for even a *soft pillow itself* will incommode a surface exquisitely tender. The limb was not moved, or only passively (and then moving pillow and all together), when the bandage was re-moistened, and the fractured part exposed to view, by which nothing wrong could happen without being seen. But not once did the patient displace the ends of the bone. Not one spasm occurred to effect such a mischief, and yet in the course of a long experience I never recollect to have attended any person who was so easily fretted by light irritation and pain.

At the end of the third week, my patient being naturally an attenuated subject, the eye could plainly distinguish, through the integuments, the breach of continuity in the bone, marked by a rough, irregular, thick line, or cleft, descending obliquely through the bone ; appearing in a vertical direction, proceeding from the anterior to the posterior surface. But not the least deviation from a straight line in the general contour of the limb could be detected, nor could the finger discover anything in passing over its course, save the oblique line or depression described.

At the end of the fourth week, by comparing the legs, it was not distinguishable which tibia had been fractured, until the finger was slowly passed over the fractured part, and on the last day of four weeks from the accident, she walked across the room, leaning on the arm of her son, Now, remember, here had been simply a rolled bandage applied spirally around the leg. I said to her, " Madam, you have heard much of splints, and have been advised by some to have them, will you now wear one, or a peice of pasteboard?" Her reply was, " Neither, sir, I thank you; I feel very comfortable, and shall be able to take care of the leg myself." And from that time forward did she so, with no other assistant means than the spiral bandage which was taken off every night and re-applied every morning. In the autumn of the same year, I frequently had the pleasure of seeing her walk in the street, with her accustomed light and nimble step.

Some have complained that little progress has been made in the treatment of fractures since the days of Hippocrates, but, I trust, that this is a great improvement.

Case 3.—The next case I shall relate is one of a very different character from the last. It occurred in the person of a rough labourer, from the granite mountains of Dartmoor; presenting in many respects contrast enough to the preceding patients. The Hightor quarries, about nine miles from Newton, afforded employment to two or three hundred men, and as one of these was engaged on the granite bed in removing what is technically called "the head" (a thick super-diluvial deposit of moor-stone, lying on the more compact rock), a mass of it fell, and buried him beneath. He was carried to a cottage at Hightor vale, from whence an express was sent off to me, for it was then a part of my occupation, and one irksome and laborious enough to attend, on contract, the sick and injured workmen at this place. I found him writhing under a fracture of the right femur, three inches above the pattella,—quite near enough to the knee-joint. The man possessed robust strength and rigid muscular fibre. As to the direction of the fracture, the great tension already existing prevented my knowing much about it at that time, but I afterwards found that it passed obliquely across the bone; the mass of stone having broken it short off. The man lay on a poor feather bed, with a coarse sacking bottom, laced up with a slack hand, so he sunk down low enough *posteriorly*. What would Boyer have said on this occasion? " Soft and yielding indeed !"

In this state of things it would have been a difficulty to lay out the thigh straight, which I never do, according to Dessault; so the method of lying " at ease," something in the way of our surpassing countryman, Poot, was adopted; the lower part of the *thigh* and the whole knee and leg, being so supported on a long pillow, and padded up underneath, that a regular plane was obtained; no one part sinking lower than the rest. Slight extensions were made from time to time, in the hour or two employed to get it into a comfortable state, talking to and cheering him the while. The fracture being reduced, the bandage applied, and a hoop employed to support the bed-clothes, I left him.

Second day. The "gude wife" thought the hoop useless, and had taken it way. The thigh was rather too warm, and the man not by any means easy; so I nailed on the hoop to his old oaken bedstead, wetted the bandage, bathed the skin, and left him easy, in a better state, with full instructions to the mistress what to do to prevent pain.

Fourth day. Other cases prevented me riding over until early on the morning of this day, when I was summoned by one of those hasty messages that put an abrupt termination to all philosophic speculation, desiring me to come to him, for he had not slept during the night, from pain, &c. I hastened up and found him with a red face and a bouncing pulse, and the skin hot and feverish. How could this be? The hoop remained as I had left it, but on removing the coverings, cause enough presented. The careful wife, after wetting the bandage in the night, which she thought was too cold, had placed a heap of blanket under the hoop, upon the leg, instead of spreading it in a canopy over it. On removing it a could of hot gas arose, almost like the discharge on letting off the steam from a little engine. The causes of pain, restlessness, and fever, were at once fully explained to them, and in no very measured terms. The limb still lay well, and in a good position. Bathing the skin with tepid water first, and then with spirits of wine, caused evaporation until he said, "Cool enough now." He had a white tongue, so I gave him two large spoonfuls of the following julep, instead of abstracting blood, and left him :—

R. *Antimon. Tartorizat.* gr. ij; solve in *Aqua Bulientis* ℥j ; et adde. *Aqua Frigo.* ad ℥ iv ; *Liquor. Ammon. Acet.* ℥ i ; *Spirit. Camphoreæ* min. xx.* M. cujus, cap. cochl. maj. j om. bis hor. postea.

Some persons regard a little alteration of temperature as a trivial matter, but of all hings in the treatment of fractures, this

* *Mistura Camphora* would have been better, but what is carried in the pocket should be *multum in parvo*.

appears to me to be the most important in the inflammatory stage. Let the limb be placed and the fractured bones be reduced with whatever perfection of art may be used, if an atmosphere, *sui generis*, surrounds the limb, heat, tension, pain, spasm, and a starting in sleep, are sure to follow. In the present case no other mistake of the sort occurred. On the following day he was much better; he had perspired freely, and had from that derived what Mr. Pott recommends in strong terms; while it was to the patient an invaluable advantage, as Mr. Pott further says, "that the surgeon never found it necessary to have the leg or the thigh once, during the cure, removed from the pillow on which it had been deposited." Of course I feel *the great practical value* of this sentence, but Mr. Pott might, *had not his splints been in the way*, have said, —"The advantage of that mode of cure is invaluable which allows any old woman to open the bandage, permit the hot air to escape, and, after bathing the surface again, lay on the tails of the wetted bandage, and thus yield the patient ease twenty times in a day or night, with as much facility as she overlaps the belt of her gown,"—all which cannot be done where splints are used. Surgical dandyism in this case would have applied four splints,—one above, another underneath, and one on either side; and with so many "safeguards" few surgeons would consider it safe to tie and to untie them every half hour. Besides, it would occupy too much of the time of a professional man; for surgical pride would not allow such frequent meddling with the established order of things by any old wife. Yet it would be impossible, even for a four-legged Chiron, to keep a patient easy at a distance of eight miles over the most hilly and rugged roads.

Perhaps some surgeons would have thought it right to bleed this patient as recommended by most authors, but I never yet bled a patient with a fractured bone (fracture of the rib and cranium expected), nor shall I ever, while other antiphlogistics, Mindererus's spirit, and emetic tartar, are extant.

But to return. In ten days this man was safe from inflammation and its effects, and on the fifteenth day from the accident I was perfectly astonished to find him with a sling under his foot and over his neck, pacing in front of his cot on a pair of crutches. I remonstrated with him on his danger, and represented to him the certainty of his having a crooked limb, but found all argument was uselessly opposed to his obstinancy, so I threatened to speak to Mr. Whittaker the superintendent of the mines. "He did not care a —— for any body," he said, and would do as he liked. My first impulse wa to forsake the patient at once, but mercy, as I thought, forbade, so on the next visit a pair of wide plasters of *emplast. lithargyri c. resina* were overlapped on each other across the rectus femoris and above the fracture, which had barely united, at the same time admonishing the man to be careful. "When may I go a fishing?" however, was then, as it had frequently before been, his anxious inquiry. "Don't think of it yet," I always answered; but believe it or not who likes, at the end of three weeks (to a day) from the fracture of the bone, he went on one crutch, using his fishing-rod as a walking-stick, to a trout stream below Holwell Tor, and there fly-fished for the starvelings till he was tried, and almost every day in that fine season he was thenceforward so employed. This was in the summer of 1825, and as he was off for employment on some other work, I lost sight of him until the last summer twelvemonth (1834); when, walking over one of the extensive marshy meadows of Kingsteignton, I saw him immersed up to the insertions of the glutei muscles in the muddy bottom of a water brook, sinking down at every step he advanced, with a sort of net in his hands, catching eels. Conversing with him about his thigh, he informed me that in one of his fishing rambles near Hightor, soon after he supposed the bone to be quite strong, he was lured so far from home by the romantic scenery about Becca Fall, that he became exhausted, fell on the ground, and might have died there, had not a boy, who was casually passing, procured a man and horse from a neighbouring farm, and he now laboured in most pathetic words to convince me how much pain he suffered on being set on the back of a wretched animal, whose false movements hurt him at every step as he passed over the rocky ground on his way home. Foolish fellow! His was the quickest, and, from his great imprudence, the worst cure of a broken limb I ever had. True, the limb was always afterwards strong enough and long enough, but he turned out his foot awkwardly. Had he remained in bed for four weeks instead of two, all would not only have been well, but would have *looked* well.

Respecting fractures like this, near the extremity of a bone, the following candid admission is made in the "Surgical Dictionary" of Mr. Samuel Cooper:—"In a fracture near an articulation, it is to be observed, also, that the splints have no command over the short fragment of a broken bone."

Pity is it that they should ever be laid over any portion of a limb at all. If some fractures will heal without the "command" of splints, why not more central fractures in the same bone?

Newton Abbott, Devon, Nov. 2, 1835.

*** Another valuable paper by Mr. RADLEY, on this exceedingly important subject, is in our possession, and should our space admit of its introduction, it shall have a place in THE LANCET of next week. We consider that the facts which have already been advanced by Mr. RADLEY, are entitled to the particular attention of English practitioners, and we believe that the liberal and enterprising surgeons of the *North London Hospital* will be the first to give the plan of Mr. RADLEY a trial in the metropolis.—*Lancet*, 1835.

ARTIFICIAL ANUS CURED BY A NEW PROCESS.

In the month of September last, M. Amussat, of Paris, was called on to see a child two days old, who had not yet passed any meconium. The anus excited, and was well formed, but the rectum terminated by an opening in the vagina. On examination it was found that the rectum did not exist for two inches from the anus. M. Amussat, therefore determined on seeking the extremity of the great intestine, separating it from its attachment, and fixing it by suture to the opening in the skin; for this purpose he made a T incision between the vaginal opening and the anus, and having introduced the finger by this opening, he separated the vagina from the coccyx and sacrum, until he arrived at the blind end of the great intestine, which was placed above, to the right side of the sacro-vertebral angle. Arrived at this point, the manœuvres produced a desire to evacuate the meconium. The gut was recognised by Messrs. Deneux and Lebaudy, who were in attendance. It was seized with a hook, separated from the surrounding parts by the finger, and drawn gently down to the opening in the skin, where it was fixed with several points of suture. It is now twenty-eight days (said M. Amussat at a late meeting of the *Academy of Medicine*) since the operation just described has been performed, and no accident has occurred, the child being in the most satisfactory state.—*Lancet*, 1835.

LECTURE

INTRODUCTORY TO A COURSE ON

HYGEINE,

OR THE PRESERVATION OF

THE PUBLIC HEALTH,

By William Farr, Esq.,

Surgeon, London.

Delivered October 28th, 1835.

Gentlemen,—The subject of *Hygeine*, so far as I know, has not yet been treated in a course of lectures by any one in the metropolis; consequently the attempt which I am this evening about to make, presents more than the ordinary difficultics of a first lecture, and must plead for the exercise of more than an ordinary degree of indulgence. Instead of entering directly on the matter of the course, as should be done, were the general nature of the subjects to be discussed thoroughly comprehended, I shall, after examining the history of Hygeine, endeavour to lay before you an outline of the whole course, and direct your attention to some illustrations which may enable you to appreciate, at their just value, a few of the points of view from which we are about to examine Human Life.

"Hygeine" is a naturalized French word, taken from the Greek signifying health. In its present form it is not, as Dr. Forbes has judiciously remarked in his "Bibliography," very agreeable to the English ear; and I should have adopted the term *Hygiology*, but from the dread of attempting two innovations. It is considered equivalent to *the art of preserving health;* and while the exercise of *Therapeutics* restores the sick to health, *Hygiene* is said to teach how life is preserved. Life is valuable,—"All that a man hath will he give for his life,"—and health is a blessing which sweetens every other joy, or bears men up even against misery; so when private individuals only are considered, health and the extension of existence should be the primary objects of Hygeine; to be attained at the expense of almost any sacrifice. Every member of the body may be lost, all its form and loveliness may have perished around it, the intellect itself may be gone, and man may remain.

> "Sans teeth, sans eyes, sans taste, sans everything,"

and yet may it be our duty to protract animation to its utmost span. Even with the most destitute individual, in the most forlorn condition, nothing could justify the neglect of every necessary sanatory precaution, except the inevitable moral wreck of the heart, to survive which—to sacrifice our solemn duties, friends, country, or truth, for life, and so *propter vitam predere causas vivendi*,—hygeine itself offers no incentive.

Although the preservation of health and the prolongation of life are the great objects constantly to be kept in view in private hygeine, they are subordinate in public hygeine, where nations are considered to the higher end of developing the human faculties, and raising them to their greatest possible degree of organic perfection. Regarding mankind with a general eye, would an intelligent being desire to see a feeble, imbecile, effete population, vegetating through an antidiluvian age of some eight hundered winters; or would he attempt to call forth all the energies of humanity, to flourish for a few years or generations, and then to ebb with terrible revulsion? Would he not rather seek to temper the intensity of life, so that, when multiplied by time, the greatest possible sum of vitality might be produced?

"Hael," the Saxon root of "Health," implies *strength*—hence we have "a hale man:—and "Healer" was a bestower of Health. "Physician" and Saviour" were translated by the Saxons "Healer." In speaking of the preservation of health, I wish health to be understood as implying not only that smooth course and equilibrium of the functions which is now commonly indicated by the word, or the state to which patients are restored after sickness,—but the *strength* and continued energy of the mental as well as the muscular

system, "Cultivation" would be a more appropriate term than "preservation;" as the latter implies only *continuance*, while "hygeine" employs all external influences, and all our knowledge of the organs, the functions, and the habitudes of the human economy not merely for its *preservation*, but for its *improvement*.

The true object of hygeine, then, is to increase the *sum of vitality* by extending individual life to its full term (averting death): by obviating sickness; and by increasing the energy of all the vital forces whether nutritive, formative, locomotive, or sensitive and intellectual.

A history of life, of the natural and supernatural means which nations and legislators have employed for its preservation, the plans proposed by enthusiasts, and the valuable precepts which medical men and philosophers have successively deduced from the observation and experience of mankind, would afford us abundant instruction; as it would show the human mind at issue with a problem of the greatest practical importance, and the highest speculative interest. My first step however, on this occasion, shall be directed to signalizing some of the chief cultivators of hygeine; —to direct you where to refer for more ample information on the subject than can be furnished in these lectures,—and to guard against some false doctrines, which float like warning wrecks on the surface of its past history.

Egypt was considered by the ancients to be the seat and source of medicine. The observance of great bodily cleanliness, strict regimen, mild diet, from which the use of several animals was proscribed; vomiting, purging, and fasting, for three days successively every month; and a simple, invigorating education, inuring the youth to hardships,—these were some of the doctrines of the Egyptians, and formed part of their laws. Physicians were included in the learned class, constituting one all powerful priesthood, to whom a third of the land was allotted. They practised their art for the advantage of poor and rich indiscriminately, their endowed riches raising them above the necessity of requiring fees. In the time of Herodotus, it is said, the plague was entirely unknown among the Egyptians, many of whom attained a great age.

The four last books of the Pentateuch unfold a great system of hygeine, not constituting a mere philosophic unapplied theory, but enforced by legal sanctions, and carried out in practice to the very letter of its enactments. Moses was learned in all the wisdom of the Egyptians, and adopted several of their practices; but together with the great idea of emancipating his countrymen, and carrying them from a land of bondage to a land overflowing with natural riches, came many profound principles of truth, resulting from the study of the moral and physiological condition of mankind, and a thorough knowledge of the external circumstances—of the country —the wilderness,—through which people were to be led. On account of the relation of miracles mingled with the narrative of Moses, some persons object to references being made to the Pentateuch; or to considering it as historical authority for scientific truths; but internal and circumstantial evidence proclaims its authenticity too strongly to justify the rejection of the facts which it contains, whatever differences of opinion may attend their interpretation. Voltaire says that every thing about Moses is supernatural: "Chaque peuple à ses prodiges, mais tout est prodige chez le peuple juif." After examining the records collected in the Pentateuch, the manners and the style of the Arabs, and all the other attendant circumstances, I think you will come, if not with Warburton, at least with Muller and Roetteck, to a different conclusion. I shall here assume that the facts are historical, and proceed to develop a faint outline of the Mosaic system of Hygeine: important, because it is the first recorded with detail, and because of the mighty principles it involves. The great theological system revealed by Moses, I am neither qualified nor called upon to discuss; in hygeine we have only to do with the physical facts.

Moses, *after carefully distinguishing the contagious diseases of the Israelites, commanded that the infected should be isolated,*— In *Leprosy*—a cutaneous affection allied in character to Tubercular Elephantiasis—the suspected man was brought to the priest, who pronounced him "unclean;" or, if there were any doubts, shut him up for seven days, until the symptoms of the case became well marked. The "unclean" were put without the camp, and only visited by the priest: their clothing was burnt. When the people possessed settled habitations in Canaan, unhealthy houses were directed to be examined, and "scraped within and round about," the dirt thus taken off being carried out of the city to an "unclean" place. The worst buildings were to be entirely broken down and removed.

In the disease of *Gonorrhœa*, the indentity and antiquity of which, will, I think, appear indisputable to those who read the 15th chapter of Leviticus, every thing and every person touched by the patients, was declared "unclean"—to be set apart and purified by washing. Seven days of purification were prescribed for the cleansing of the impure person; who afterwards offered before the congregation "two turtle-doves or two young pigeons." The minute regulations on this head deserve your attention; so do those relative to the menstruatien of females, to their purification, and to cohabitation, particularly in the East, and among the Arabs. Circumcision, still practised among the same races, and, in some tribes, upon females, was intended to promote cleanliness; perhaps to prevent some diseases of the prepuce; or to obviate phymosis and paraphymosis. It was performed on the eighth day after birth; and often must have destroyed the *most weakly* children, who would bleed to death, or die convulsed: at least such a result has sometimes been observed among the German and Polish Jews. "A bloody husband," said Zipporah to Moses, "art thou, because of the circumcision."

Animals were allowed for food, but a great many species were prohibited. "Whatsoever," says the Jewish law, "parteth the hoof, is cloven-footed, and cheweth the cud, ye may eat;" swine were excluded because they did not ruminate; coneys and hares because their hoof was not divided. The prohibition of hares would recall to mind the modern Game Laws, were it not in conformity with *a principle;* and did we not know that Moses always carried out his principles to their most rigorous consequences. Birds of prey, "whatever in the waters hath neither scales nor fins, whatsoever goeth upon its paws," and all flying creeping things, except locusts, grasshoppers, and beetles, were forbidden. The latter flying creeping things were, probably, not unacceptable in the wilderness. The ox, the sheep, the goat, the deer, and the chamois, were orthodox food; in fact, the classification excluded few animals which we now eat, except swine, hares, and rabbits. Every thing that "dieth of itself" was pronounced inedible; and the blood of all animals was to be poured out.—"Ye shall eat the blood of no manner of flesh for the life of all flesh is the blood thereof." *Lev.* xvii, 14. Blood is rarely taken by Europeans, although it is drunk by some carnivorous animals and savages. It is not very palatable, but I am not aware that blood is indigestible. Some think that this enactment was intended to prevent cruelty; in support of which, Bruce relates, that somewhere in Abyssinia, the fierce nomads drive their cattle and cut steaks from them as they are needed; but this very much resembles Mizeld's story of the goose.*

The enactments relating to marriage, which are now adopted in Europe, were founded on the physiological law, that a degenerate offspring results from the intercourse of animals which are nearly related; and that a proper mixture of alien blood, can alone give birth to an untainted and vigorous race. Cousins and near relations, by being brought into contact when young, and when the affections are opening, too often lay the foundation of matrimonial alliances which infringe upon the general laws of Hygeine. What would have been the result of allowing the connubial union of nearer relatives? The denouncements of adultery, which was punished by death, and the strict investigation of virginity, discouraged promiscuous intercourse,—destructive of the bonds of families, calculated to yield a degenerate spurious issue, and likely to involve nations in exhausting pernicious disease. Such a restraint was necessary, and justified by the truths of physiology, as, in the language of Beaumarchais, man is the only animal "qui boit quand il n'a pas soif; et qui fait l'amour en tout temps."

The Levites (the priests or learned cast) were the medical advisers of the people; they were remunerated from the tithe, and received offerings on recovery. Jehovah himself was his people's physician; and on condition of their hygeinic and religious obedience, declares, "I will take sickness away from the midst of thee; the number of thy days I will fulfil"—the great aims of our art.

Moses, assisted by the princes of each tribe and the High Priest, made two enumerations of the people, distinguishing "their families by the house of their fathers, with the number of their names, every male by their poll, from twenty years old and upwards, all that were able to go forth to war in Israel." The first census was made by assembling the congregation together on the first day of the second month, in the second year after they were come out of Egypt: 603,550 males above the age of twenty were enumerated. The force of each tribe is stated; the Levites, a month old and upwards, amounted to 22,000; the first-born of all Israel to 22,274. The males above twenty in western Europe constitute about a quarter of the total population so that 600,000 males imply a total population of 2,400,000. Many believe that there is an error in this enumeration, but it is not necessary to examine the arguments on either side here; I only call your attention to it as the first census recorded, and to the fact that Moses employed this enumeration of the males of twenty years old and upwards, as a measure of the strength of the population at his disposal.

Before him were the thousands of Israel reluctantly torn from slavery, debased in intellect, and corrupted by circumstances, but now safe from Egyptian pursuit: Let us ask "what was the hygeinic problem which Moses had to solve? His great and avowed purpose was to put the Israelites in possession of Palestine, already fenced with walled cities, and guarded by a warlike population; the difficulties to be overcome were the traversing of an uncultivated but not extensive desert, obtaining supplies of food, and converting a race who were rendered dastardly and feeble by bondage into the warlike progenitors of an exterminating people, to extend its numbers from Lebanon to the Euphrates. Led to action in the first year, the unwarlike combatants, affrighted by the Egyptians, and easily turned aside by other small tribes, were driven back by the Amorites, like swarms of bees. Moses, from the moment of that defeat devoted the entire generation to death in the "terrible wilderness," where pestilence, thirst and hunger, in the course of forty years, destroyed all that bore arms (above twenty years of age), and only allowed the stronger children to grow up for the purpose of war, disciplined by the Mosaic laws. In the accomplishment of his designs, the lawgiver spared no lives: at Sinai 3000 rebels

* Animal food is so abundant in some parts of South America, in Chili, for instance, that it is not uncommon in that country to kill a large beast for the sake of the single meal of a few pounds weight, which a few travellers can make from certain parts of its carcass, the remainder being left on the plains to appease the hunger and gratify the palates of animals which are less delicate of taste than man, when flesh has been for a few hours exposed to the heat of a climate within the torrid zone. In such a fact the statement of Bruce may have originated.—Ed. L.

of his own people were slaughtered. The conquered tribes were exterminated, and their riches were appropriated; or the women only, who had not known men, were saved, to augment the number of children. Notwithstanding the waste occasioned by death or war, on numbering the Israelites a second time, at the expiration of thirty-eight years, the great legislator records with dignified satisfaction, that the males of twenty years old and upwards still amounted to 601,733, animated by a very different spirit, and a far higher degree of vitality. than languished round the whitened bones which were sleeping in the desert. With the prophet called to curse them gazing on one hand over the country they were about to possess, on the other over "Israel abiding in his tents;" his enraptured lips might well exclaim, "Who can count the dust of Jacob? How goodly are thy tents, O Jacob! and thy tabernacles, O Israel! As the valleys are they spread forth, as the cedar tree beside the waters. God brought him forth out of Egypt. He couched, he lay down as a lion, and as a great lion, who shall stir him up!" Thus Moses left the Israelites, a numerous nation, raised by great principles, a system of laws, and hygeinic adaptations from slavery, and perfectly fitted to its great destiny; and thus he accomplished one of the most interesting physical regenerations recorded in early history. In contemplating this mighty work, shadowing forth preconceived ideas, and the result of theoretical principles, rigorously and sometimes cruelly enforced, the fugitive herdsman of Jethro, on the volcanic Sinai, standing before a rebellious people, and viewed with an enlightened philosophy, must remain for ever sublime in character, as he was conceived by Angelo.

Turning now from Egypt and the southern shores of the Mediterranean, let us direct our attention, northwards, to the coast of Asia Minor and Greece, where the first temples were raised to Esculapius and Hygeia, and where human culture developed to a high degree all the physical and psychical powers of our nature.

The constitution of Sparta, founded on simple principles, and professing as its determined purpose, the development and equal distribution of physical strength and vitality among all the citizens, presents another remarkable example of the influence of hygeinic agents on races of men. Some degree of uncertainty hangs over the early history of Lacedemonia and that of its lawgiver Lycurgus. We do not know in what precise hygeinic condition he found and left that people; but it is almost certain, that after journeying the laws of several years, studing Minos, comparing the effects of Cretan simplicity with Ionian luxury, and making himself acquainted with the physical condition and the philosophic doctrines of the surrounding nations, Lycurgus returned to Sparta, and established a new legislation, founded on education which he looked upon "as the greatest and most glorious work of a lawgiver." The children were taught to endure labour, to fight, and to conquer; they were lodged in the country; went barefooted, played naked or wore one upper garment, and slept together on rushes. They were fed on coarse spare diet, exposed to alterations of hunger and thirst, bodily suffering, and fatigue, and practised severe gymnastic exercises. After an animal is born, its character and nature are cast and fixed. So the education of Lycurgus began before birth. He sought at its source and root to fashion the Spartan race in the iron mould of his system; for this purpose he first reduced, according to Aristotle, the women to some rule: "he ordered the virgins to exercise themselves in running, wrestling, and throwing quoits and darts; that their bodies being strong and vigorous, the children afterwards produced from them might be the same. At certain festivals they sang and danced, unapparelled, but with all modesty, before the fathers, the young men, and all but the mocked and scorned bachelors of the city; and, to use the expression of Plato, drew the young almost as necessarily by the attractions of love, as a geometrical conclusion follows from the premises. On marriage, the bride was carried off by violence; and only seen illicitly by the bridegroom, neither oppressed by wine, nor enervated by luxury *(Plutarch)*. The father could not rear his own offspring before he had carried to the elders; who, if the child was strong and well-proportioned, left it with the mother, and gave orders for its education by the state; but if it was weakly and deformed, commanded it to be thrown into a deep cavern near the mountain Taygetus. The women, too, washed their new born babes with wine, to try, Plutarch correctly adds, "their habit of body; imagining that sickly and epileptic children would sink and die under the experiment, while the healthy would become more vigorous and hard." Their public education began at the age of seven years. For further details on the Spartan education, I must refer to Plutarch, Xenophon and Pauw. These outlines present a picture sufficiently revolting to the better feeling of this age,—to us of the nineteenth century, who send foundlings to hospitals, nurse scrofulous infants, and educate the children, even of the labouring poor, in workhouses. Yet revolting as this system seems, it formed Leonidas, and the three hundred who fought and died at Thermopylæ "to obey the sacred laws of their country." It was founded on physiological laws, and realized at a great expense of suffering and life, the idea of Lycurgus, in producing a chosen nation, endowed with extraordinary energy and an uncommon degree of vitality.

This investigation of the hygeine legislation of the Hebrews and the Spartans, appears to me to preclude, to a certain extent, the necessity of further historic inquiry into the hygeine of ancient and barbarous nations, for their institutions embody the practices not only of the early, but of the modern uncivilized nomad and fixed tribes which are scattered over the earth, and present them in a tangible, but improved and refined system. Hunger and necessity exposed the North American Indian to

the hardships and dangers, the alternations of heat and cold, the inanition and fulness which the Spartan laws enjoined; the Indians were taught manual dexterity; their eye and senses were keen; they too could endure corporal suffering, and smile in the very pangs of death; they also disciplined their women, and abandoned their weak children. And so it was not only in North America, but in South America, and among all the vigorous races of savage men which we now call "barbarians."

In order to understand a system which attempted to augment the sum of a people's vitality, by eliminating and pruning remorselessly away all the weak shoots, imagine 1800 children born on the same day at Sparta. They are taken before the elders, and a certain number are rejected; those that are strong and well-proportioned are carfully educated, and their bodies are tempered by discipline to the circumstances in which they are destined to move; after the expiration of twelve years, only 1000 remain. Now conceive the same number (1800) born in a neighbouring city, where the circumstances are nearly the same, with the exception that all the weakly children are tenderly brought up, till they are driven by necessity from their parents' arms. How many of such children would be alive at the end of twelve years? Not all, but probably more than 1000; more lives would exist than at Sparta, but the vitality of many of these saved children would be feeble, their lifetime would be impaired by sickness, and *afterwards*, in youth and in manhood, they would be swept away by the implacable severities of a rude and uncivilized state, if these were not by some accident averted. If they lived to possess offspring and that offspring extended to three or four tuberculous, scrofulous, enfeebled generations, their proportion would be augmented; while organic debilty was weeded from the Lacedemonians, the North-American Indicans, and vigorous barbarians, in its germ, by the laws, and by the stern discipline of nature.

The Russians, in an extreme climate of rapidly alternating heat and cold, still bathe their young infants in the cold rivers, and then bring them suddenly to the warm stoves, to harden their constitution, according to Russian writers. I shall prove from experiments, and the relative mortality of infants in the warm and cold months, that extreme cold destroys the young of all warmblooded animals; whence it may be inferred that these cold-baths are a summary substitute for both the Spartan examination, and the deep cavern near Taygetus. That some great cause of mortality exists among the Russian childern none will doubt, when they learn from Sir Francis D'Ivernois, that at Nigni, near Novogorod, out of 1000 baptisms, 661 die before attaining their fifteenth years; but whether the cold-baths, the cold climate, or the want of food, contributes most to this lamentable destruction, we cannot decide. It is generally agreed that there is a considerable proportion of old men in Russia, and this has been adduced in proof of the longevity and health of the entire population.

Among the most civilized nations of modern Europe, out of 1600 or 1800 children born, only 1000 remain alive at the end of the 12th year. According to the accurate calculations of Mr. Edmonds, founded on the last population and parish register returns, the annual deaths in England and Wales, for the first five years of life, were 46 per cent, in the six years elapsing between 1818-24. Admit that the mortality in infancy had been greater, and that many of the weaker children had perished, is it not probable that the mortality in manhood would have proportionally declined; The state of mortality in Belgium entitles us to answer this question in the affirmative. In Belgium 66 infants, between birth and five years of age, die annually per thousand; and in manhood, between twenty and thirty years of age, 9; between thirty and forty, exactly 10 per thousand perish; while, at the same ages in England, 10 and 12 instead of 9 and 10 per thousand are lost. You perceive here an oscillation in the line of vitality,—in the proportion between the dying and the living. If it is lowered at one time, it rises correspondingly at another. Again, where the temperature, the place, or the social condition, renders life difficult of preservation,—where the external hygeinic conditions on which physiological processes depend are unfavourable,—the deaths in infancy are immensely augmented, in order to raise the subsequent period, destined for the productiou of the species to a certain pitch of vitality, below which its generations would cease. In the cold climate of Sweden, instead of 45, as in England, 90 per 1000 died annually in infancy (1755-75). Between the ages of twenty and forty, however, the mortality was not quite so great as in this country. In Stockholm, out of 3000 born, only 1000 survived the twelfth year. You conceive, perhaps, now, that notwithstanding the sacrifices of infants, the sum of vitality may possibly, have been as great in Sparta as in other and worse climates, where cold destroyed the young, or even in the same climate where the infants were reared.

If, for a moment, you examine the fine races of dogs, of sheep, of oxen, in this country, or the fleet race of English race-horses, you will find that the system of breeding and training—directed not to increase the longevity of those animals, but to give them muscular strength, velocity, and sagacity, or simply weight and flesh,—has been eminently successful. I will not here dwell on the system which those who breed these animals adopt; I shall recur to that on another occasion, and now only call your attention to one fact—viz. that they invariably *reject*, and never *breed* from, those animals which do not possess that vigour, sagacity, or well favoured aspect, which they aim at rending permanent in a race. If every sickly, puny, cowardly, stupid individual, was necessarily retained, and all were allowed to associate promiscuously, the present perfect animals would spcedily degenerate, like neglected uncultivated vegetables, to their primitive state of wildness. The extension of these principles, deduced from the observation of

domesticated animals to the human species, constituted a man future of the laws we have just passed in review; many of which are now happily, discountenanced, alike by humanity, and a more enlightened hygeine, and by all the governments of civilized Europe, except Russia. In the next lecture we shall examine the hygeinic doctrines of Hippocrates, Galen, and the moderns, and present some illustrations of the influence, and the means of measuring the influence, of hygeinic agents.—*Lancet*, 1835

OBSERVATIONS ON LEPRA AND PSORIASIS.

By C. W. Pennock, M. D.

(Continued from page, 363.)

In the next case, (the 4th) related by our author, lepra vulgaris was apparently removed by the supervention of variola. On the subsidence of the latter, the lepra also faded, and ultimately disappeared. In the fifth case, a complication of variola and psoriasis diffusa proved fatal, and afforded an opportunity for examination after death.

Case. The patient, a shoe-maker, æt. 26, entered the hospital on the 19th December, 1831, affected with psoriasis diffusa, which had commenced in the September previous. On the 30th he was seized with chills followed by pyrexia, and on the 2nd of January, small-pox made its appearance. The eruption became confluent. On the 6th, there was intense angina, with inclination to coma *V. S. ad* ℥viij. On the 7th, the coma was diminished, but the left eye was much inflamed. On the 8th, delirium with nausea and vomiting—pulse frequent and weak deglutition almost impossible. The prostration increased, though the other symptoms displayed some variation. On the 10th, he died.

DISSECTION, 24 HOURS AFTER DEATH. "CRANIUM.—The cerebral veins were engorged with blood; the sinus of the dura mater, as well as those of the brain ,were empty. The medullary substance of this organ firm, and clotted with red points of blood.

FACE.—Conjunctiva of left eye very red and inflamed; olfactory membrane covered with pustules.

RESPIRATORY ORGANS.—Mucous membrane of the epiglottis of a deep red colour, very small pustules are seen in the glottis. The mucous mem-membrane of the larynx and trachea is much injected and thickened; that of the bronchi of a scarlet redness to their most minute ramifications. *Lungs.*—Crepitant in some portions, but generally engorged with black blood, as in death from asphyxia. *Heart.*—Natural.

DIGESTIVE APPARATUS.—Tongue covered on the edges with eight or ten pustules; amygdalæ swollen. Pharynx red; the superior portion covered with large variolous pustules; no preternatural redness of the œsophagus; its glands are of the size of a millet-seed; on some parts its epidermis is detached. *Stomach.*—Mucous membrane of a brownish-red colour; its consistence normal. *Duodenum.*—Muscous membrane of a pale red, not softened. The follicles of Brunner were numerous in the upper portion of the intestine. *Peyer's glands* were not developed. Towards the last fourth of the small intestines, Brunner's glands were much enlarged. The *ileum* was of a deep red near its junction with the cœcum. In this last intestine the follicles were of their natural size. The mucous membrane of the colon was red for the space of a foot; the follicles of the rectum were visible, but not as much enlarged as those of the small intestines.

Skin.—The pustules of vaniola, as well as the patches of psoriasis, are not so elevated as during life. Upon examination of the pustules of the small-pox, the cutis vera was found perfectly healthy; the superposed layers described by Cutugno were very evident, and coloured by blood from the capillary blood-vessels of the skin. In the patches of psoriasis, the derma was also found in a normal condition, but the rete-mucosum was exceedingly red, and the sanguineous infiltration much more copious than in the variola, giving a red tinge to two false membranes, which were separated by bloody pus."

Dr. Pennock observes, in reference to the preceding interesting dissection, that it exemplified the fact of inflammation of the rete-mucosum as an attendant upon, and probable cause of, psoriasis. M. Rayer states, that this is always the pathological state of that portion of the skin in this disease. Plumbe ascribes it "to a chronic inflammation of the vessels secreting the cuticle, producing morbid growth of this structure, and generally dependent on debility of the system."

The chief peculiarity of the sixth case related by Dr. Pennock, is the circumstance that, in its progress, it displayed the sinuous patches of psoriasis gyrata. M. Biett had seen four instances only of this rare variety. Pills of the sulphuret of antimony, the arseniate of ammonia, the tincture of cantharides, the ointment of the ioduret of ammonia, &c. proved perfectly inefficacious.

Case 7. *Psoriasis Inveterata—benefit from the use of Pearson's Solution.*

A cooper, æt. 57, first became affected with psoriasis in 1823 or 1824. It appeared upon the scrotum in the commencement. On the 10th of October, he entered the Hôpital St. Louis.

"The external two-thirds of the right arm are covered with continued patches, of which the base is a pale red, slightly raised above the skin, the surfaces of which are covered by large, thin, dry scales, of a pearly whiteness, and are separated by longitudinal ridges. Other elevations are observed, from which the scales have been torn by the nails of the patient, leaving the red surface exposed. Instead of the borders ending abruptly by round edges, as psoriasis usually does, this case presents a different appearance. The diseased surfaces gradually lose their elevation; the red colour of their base changes by insensible degrees to a light brown, and this again into

the natural colour of the healthy skin.

The second remarkable circumstance is, that there is no trace of other spots or patches of psoriasis, either near the large one on the arm, or near those of the body.

An eruption like that on the arm surrounds the neck. The scrotum is hanging, has a red dry appearance, and is covered with scales of a yellowish colour; so that without the psoriasis of the body, it would be taken for an eczema; frictions having modified the appearance of the scales.

The entire scalp is affected, and the scales which are there of a more brilliant white than on the body; they are very small, and resembling the furfuraceous appearance of pityriasis; on the anterior part of the cranium the red base and elevations of psoriasis are scarcely visible: on the back part of the neck, on the contrary, the rounded edges and raised border are covered with tolerably large scales. It would seem that the neck is covered by psoriasis, whilst on the anterior part of the head an eruption intermediate between pityriasis, rupia, and psoriasis is presented.

TREATMENT.—In thirty days the patient took twenty-four and a half drachms of *Pearson's solution*, during which time his usual drink was *an infusion of the saponaria officinalis*, under which treatment the affection was mitigated."

This "mitigation" augmented to convalescence, yet the patient was certainly not cured when the report concluded.

CASE 8. CUTANEOUS AFFECTION INTERMEDIATE BETWEEN PSORIASIS AND ECZEMA.—We notice this case because it displays a condition intermediate between psoriasis and eczema, a condition which we do not think extremely rare as we have lately witnessed two examples of it. But we will mention the particulars of the case of Dr. Pennock.

A labourer, æt. 57, who had lived chiefly on bread and cheese and brandy, thought that he observed the complaint in August, 1832. It commenced on the right elbow, from which it extended to the remainder of the body. In March, 1833, he was received into the hospital. His state was then as follows, and we pray the attention of our readers to the particulars.

"On the back are observed patches of diseased skin, varying from two lines to an inch in diameter, and of an elliptical form. These portions are covered with scales, which being detached, the skin is seen of a pale red colour, in most instances not raised above the sound skin, and in others very slightly elevated. The scales on their external face are white, micaceous and reticulated; internally they are slightly yellow. They are evidently formed of the epidermis, and appear to be composed of two laminæ.

Towards the back of the neck, and on the shoulders the patches unite, and form a continuous series; the skin composing them is red, slightly raised above the level, humid from serous effusion, and covered with dry, thin, yellow scales. The same appearances are presented on the abdomen as on the back.

On the arms, particularly on the internae parts, are seen spots, (plaques,) which are raised the fourth of a line above the sound skin, of a red colour, and from two lines to an inch in diameter, and covering the elbow joint; these spots are divided longitudinally by furrows, and the desquamation consists of crusts which are yellow, of various forms and dimensions.

On the scrotum, and on all the inner surfaces of the thighs, the skin is red; these parts are covered with thin yellow scales, some large, others small, varying from a line to half an inch in diameter. The internal face of these scales is generally humid, and on the whole of the inner part of the right leg is an abundance of serous exudation. On the legs the scales do not present the white micaceous aspect that is seen on those of other parts of the body.

On the scalp, the eruption has the appearance of psoriasis.

As Dr. Pennock was unable to follow up the case, we need not enter on the treatment. In fact, the main interest is connected with the complication of the characters of psoriasis and eczema. We mentioned that we have lately witnessed two instances of this description. The last was in the person of a gentleman who applied to us a few days ago. He had had the eruption for three years, and it had commenced in India. We need not mention the particulars of the eruption, as the case of Dr. Pennock will furnish the essential features of both. It was, however, extensive and distressing.

One circumstance was common to all the cases we have seen, a tendency to occasional exacerbations and remissions. The exacerbations were always ushered in with fever, but this after a short time subsided. The general pyrexia was always attended with aggravation of the local inflammation, and the latter generally shewed a disposition to subside, in proportion as the former declined or disappeared. This circumstance, however, is observed in many cutaneous affections, and particularly, perhaps in psoriasis and eczema. We think that it deserves the especial attention of the surgeon or physician in directing the management of those affections. The remedies that are applicable to the inflammatory stage are certainly not required when the inflammation has subsided. In the inflammatory stage, mercurials and active purgatives, in some instances even venesection, salines, and antiphlogistic regimen, are the natural and indeed the most advantageous remedies. But after the inflammatory stage has passed away, sarsaparilla and the liquor potassæ, the liquor arsenicalis, and medicines of that class are indicated. Much, we think, depends on watching the state of the eruption, and on not indiscriminately using tonics or specific remedies, no matter whether there be fever or not—no matter whether local inflammation is or is not in existence.

The resemblances and distinctions of psoriasis and eczema are briefly, but sufficiently pointed out by Dr. Pennock. The points of resemblance, he observes, are as follow :—

" *First.* The epidermic secretions.

Secondly. The slow progress and chronic character which each may present.

Thirdly. The red coloration of the skin.

Fourthly. The intense itching.

The differences may be thus shown.

First. The elevation of the derma. *(Psoriasis.)*

Secondly. Vesicles at the commencement. *(Eczema.)*

Thirdly. Serous effusion, accompanied by the epidermic secretion. *(Eczema.)*

Lastly. The skin smooth and shining after the cure. *(Eczema).*

We must now indulge in a long quotation, containing, as it does, a summary of the facts in the preceding cases, and of our author's observations in the St. Louis' Hospital.

" Upon an analysis " he says, " of the preceding cases, as well as some others in the writer's possession, it is observed, that the disease first appeared on the superior and inferior extremities, especially in the vicinity of the articulations, in seven out of ten instances; on the head twice, and once on the scrotum. In every case the disease commenced with the sensation of burning and itching, and the primitive appearance was that of enlarged papillæ, which were soon covered by the formation and exfoliation of minute and dry scales. The papular appearance increased, assumed a form more or less circular, the surface of which did not manifest a central portion of sound skin previous to having been covered by squamæ. The primitive appearance of lepra and the varieties of psoriasis were the same, and in two instances, patches of the former were intermixed with those of the latter; these facts, coinciding with the observations of pathologists of other countries, warrant the opinion, that the difference of the disease is merely in the form, and that essentially they are but varieties of the same affection.

In one-fifth of the cases, one of the parents of the patients had had a sqamous affection. No facts were presented which induced the idea, that the disease had been the result of contagion. The observations having been confined to persons in the poorer classes of society, no comparison could be instituted between them, and those surrounded by more comforts. Most of the patients were persons whose general health, previous to the disease, had been good.

One of the individuals attributed the origin of the disease to domestic chagrin. It is certainly remarkable, that a moral cause should produce such an effect upon the skin, but similar cases have been frequently remarked. Plumbe relates two highly interesting cases of that character. He remarks, that ' the class of persons who appear to be most subject to it, (lepra,) are those whose minds are anxiously occupied by the cares of business or study, or who are accustomed to bodily exertion beyond what their strength enables them to bear.

Respecting the pathology of these affections, writers are far from being unanimous in their opinions. Aliber observes with great truth, Ce qui deconcerte l'observateur lorsqu'il est a la recherche des causes qui influent sur le développement de l'herpès, c'est de voir, ce genre d'affection se manifester chez des sujets qui jouissent, au moins en apparence, d'une santè parfaite.' Plumbe thinks that the vessels which secrete the cuticle, are the seat of chronic inflammation, which renders the production of the epidermis more abundant, and causes the exfoliation of the scales. This hypothesis is imperfect, as it does not account for the circular form which the patches of lepra present. M. Rayer attributes the diseased action of the cuticle to the inflammation of the rete-mucosum. In case fifth of the preceding series, this condition of the mucous tissue was observed; how far it had been influenced by the existence of variola, the writer is unable to determine."

Dr. Pennock does not attempt the diagnosis between psoriasis and lepra, because, as has been already mentioned, he considers them as varieties of the same affection. The presence of dry scales, he remarks, is the general distinctive character of psoriasis. But sometimes the primitive exfoliation is superseded, or attended by serous or sero-purulent appearances; in this case the presence of vesicles or pustules may be detected on examination, and the scales are not dry, gray, and friable, but are large, soft, and humid concretions of the effused fluids.

" Chronic eczema in some instances presents appearances very similar to psoriasis; this is particularly the case when it affects the head. In this case, although the scales may be dry, yet upon examination immediately behind the ears the surface will be found moist, and vesicles are occasionally seen in the vicinity. Psoriasis of the scalp may be distinguished from pityriasis by the thickness of its scales and by the solid papular indurations, which are more or less prominent."

On the distinctions between common psoriasis and lepra, and certain syphilitic eruptions we will not enter here. A paragraph would be perfectly inadequate to point them out, and we have not space for more extended remarks, We insert our author's remarks upon the treatment, which probably comprise the greater part of what is known with respect to the management of these most obstinate eruptions.

" Pathologists differing respecting the seat of the disease, present views equally adverse in regard to the treatment. Rayer founding his opinion on the idea, that an inflammation of the rete-mucosum is the pathological state of the skin, recommends venesection, and the application of leeches to the diseased parts, upon their first appearance. Plumbe, on the contrary, regarding this affection as the result of debility, directs his entire attention " to the restoration of the strength of the patient to its original standard, not simply before the cutaneous disease appeared, but even before those

habits or pursuits were adopted, which for years may have preceded it." Hence he urges the importance of placing the patient under circumstances favourable to the invigoration of the general health. It would seem impossible to lay down any positive and unvarying plan of treatment, occurring as the disease does, in the poor, enfeebled by every variety of privation, and in the rich, surrounded by every comfort and luxury; in fact, the practitioner must be directed by his own discrimination.

The practice of M. Biett is, if the patient be young and vigorous, the skin inflamed and red, the pulse full and active, to have recourse to venesection, simple baths, diluent drinks, rigid diet, and rest. He disapproves of the application of leeches as never producing any beneficial effects. In those cases where the patient is old, enfeebled by disease or insufficient nourishment, and where there is not evidence of much inflammatory action, tonics should be administered. At St. Louis, where the class of patients are those who have been subjected to much privation and distress, the practice last mentioned is resorted to, until the state of the system is such as to support active treatment. The external applications in use at that hospital, and which have been attended with useful results, are the various preparations of iodine, combined either with sulphur, (grs. xv. to grs. xx. of the proto-ioduret to ℥j. of axunge ;) or the proto-ioduret of ammonia combined as mentioned in the first part of this essay. Whilst the patient is on the use of a bitter infusion, (generally that of hops,) frictions with these ointments are made morning and night on the patches of the eruption. The result with the ointment of the ioduret of ammonia has been previously stated ; that with the ioduret of sulphur is such as to warrant the continuance of its use. In a case of psoriasis diffusa, which I have recently had under my charge, the result of the treatment with friction with the ointment of the ioduret of mercury has been very satisfactory. M. Alibert used with much success the ointment of the white precipitate of mercury. Plumbe recommends in strong terms the following external application: R. Hydrarg. subm.; Plumb. superacet. ää. ℥ss.; Ung. hydrarg.; nitrat., ung. cetacei, ää ℥ij. M.

Baths are of much use in exciting the circulation, in producing a more natural state of the skin, inducing perspiration, and by detaching the scales. They must be directed on the principles previously mentioned ; using the simple, emollient, or narcotic baths when much inflammatory action exists, and the more tonic in cases of enfeebled states of the system ; sulphurious, sea water, alkaline baths, and those of the preparations of iodine, are then considered as most useful.

Vapour baths, either general or local, are also useful auxiliaries in the treatment of these affections.

As regards the internal treatment, Biett places much reliance on purgatives of calomel, (either alone or combined with jalap,) when administered in the forming stage of the disease. It is found to be particularly valuable in cases of children. He counsels its administration in small, in preference to large doses, with the view of producing a slow, rather than a sudden change in the system.

The tincture of cantharides has often produced much beneficial effect in chronic cases, or where the disease has re-appeared, or where it exists in persons of enfeebled constitution. His mode of administering this preparation is from three to five drops in a teaspoonful of sweetened water or ptisan, in the morning previous to eating. The state of the digestive and urinary organs are to be closely attended to, and if no epigastric pain, nausea, purging, or ardor urinæ should be induced, it may be augmented five or six drops a day, until twenty-five to thirty drops a day have been administered. In exceedingly inveterate cases of this disease, all the preceding treatment has been found to fail; in such cases the exhibition of Fowler's and Pearson's solution has succeeded. The commencing dose of Fowler's solution being three drops in some inert vehicle, and gradually augmenting until twenty-five to thirty drops per day have been administered. Pearson's solution being much weaker, may be given in the dose of a scruple, increasing to half a drachm. The preparation of the arseniate of soda is applicable to women and debilitated persons. In the administration of these remedies, the medical observer should keep constantly in view the injury which the gastro-intestinal mucous surfaces may sustain, and cease the exhibition of these preparations upon the slighest manifestation of diseased action.

M. Biett reports several cases of psoriasis inveterata, where he obtained satisfactory results by the administration of the arseniate of ammonia used in the same doses and under the same circumstances with the arseniate of soda.

In psoriasis affecting the prepuce, the application of mercurial ointment should be used. In psoriasis scrotalis, fumigation with sulphur, or cinnabar, is found very efficacious."

The plan we have found most beneficial has been the employment of antiphlogistic remedies during the febrile stage of psoriasis, or when any local inflammation exists—but when these are not present, or have passed away, the treatment must be changed for a plan of a more stimulating character. Sarsaparilla and the liquor potassæ or the liquor arsenicalis, is certainly the remedy that answers more frequently than any other, but light bitter infusions with soda, or if the patient's system be enfeebled with the volatile alkali, and gentle tonics of various kinds, are not unfrequently serviceable in these circumstances. Purgatives, especially combined with mercurials, are extremely beneficial in psoriasis. In lepra they are not so useful. In psoriasis there is generally more of inflammatory action, and a febrile state, than in common lepra. Much, however, must depend on the circumstances of the individual case, and much on the experience, the judgment, and the tact of the physician.

We think the preceding paper not unworthy of the attention of practical men.

ON NERVOUS AFFECTIONS CONSEQUENT UPON LOCAL INJURY OR IRRITATION, AS EXAMPLES OF REFLECTED IRRITATION. MORBID AFFECTIONS OF THE SENSITIVE NERVES, HYSTERIA, NEURALGIA, MORBID AFFECTIONS OF THE MOTIVE NERVES, SPASM, TETANUS. CASES.

(Continued from page 376.)

The following passage on the subject of hysteria is not unworthy of extraction. It embodies many of its very common and very important phenomena.

"The condition of system termed in females 'hysteria,' exists, under certain modifications, in the male sex. It is a morbid condition of the nervous system, most frequently induced by the artificial restrictions which society and custom impose on the generative functions, but at all events, by the predominant influence which these exercise over the general system. Sympathetic in its nature and origin with the derangement of this important organism, it is witnessed principally at the period which marks its evolution and early development, but may exist at any point of the interval from thence to its decay.

The superaddition of this complex and mysterious mechanism to the simpler one upon which the preservation of individual life depends. is, under the negation of natural instinct, the prolific source of malady in the female, vague, various, and anomalous, beyond the compass of description. It is in the nervous system that its effects are displayed. Hence the digestive powers, the circulation, and all its subordinate functions, are troubled or interrupted, and the external senses, the temper, and moral character of the individual even the faculties of the mind, are subject to be suspended, perverted, and impaired. The sensations especially are preternatural and morbid; and acute pain is referred to parts which may or may not have been the seat of injury, but which discover no vestige of inflammation or altered stricture. In other cases, inflammation has run its course and left some slight traces of its existence, but none sufficient to furnish any satisfactory explanation of the suffering complained of. One very striking characteristic is the remittent and intermittent form of such pain, and the prevailing tendency to spasm; and with more or less caprice of appetite, irregularity of the secreting organs, and the habitual lassitude and exhaustion of the system, the absence of fever, and the maintenance of what is termed condition. Sleep too, though uncertain and of short continuance, is generally obtained in sufficient proportion. Imagination is troublesomely alive and active, and hence the exaggerated descriptions, the reveries, phantoms, noises, dreams, bizarre similitudes, and odd conceptions of patients so affected.

How often have we known patients treated for supposed diseases of the lungs, heart, liver, who persisted in referring acute pain to one or other of these regions, aggravated on pressure, in whom evidence of generally impaired functions was apparently confirmed by the coincidence of certain symptoms commonly present in organic affections, and confronted at the same time by the palpable signs of the hysteric aspect and temperament, the habitual leucorrhœa, the suspended, scanty, or redundant menstruation, globus, pale urine, &c. &c. and specially the long duration of the disease without wasting." 268.

(To be continued.)

CORRESPONDENCE.

NATIVE HOSPITALS FOR THE DESTITUTE.

We are glad to find our talented correspondent Dr. MacKinnon, in the field, on the important question of providing for the sick poor in India. There is no act which would redound more greatly to the honor of British rule, none more likely to secure the affections and the gratitude of the people, none more humane, philanthropic, or benevolent, than to provide efficient medical attendance and asylums for the destitute sick.

We observe a letter in the Hurkaru, which states that the number of sick in Calcutta are exaggerated—an assertion which amounts, we suppose, to the fact, that the number of sick have never fallen within the sphere of the writer's observations. This reminds us of the celebrated remark of the Duke of Wellington, who, when told of the great distress existing among the people of the country, said that he could not see that distress. The poor of all classes die in thousands and tens of thousands in spots which the rich never visit and in circumstance of which such speakers and writers as these become regardless.

As to the question of medical men's remuneration for attending upon the sick poor there can be but one opinion. If the poor are to be paid out of the revenues of the country, the medical man is as much entitled to reward from the same source, for their anxious and laborious duties by night and day, in preserving and restoring to health the native portion of the community, as the magistracy are for preserving peace and order. Institutions, however, on eleemosynary foundations, supported by a

few inhabitants, should be, and are generally, attended gratuitously by medical men in all parts of the world. With respect to the native hospital our opinion is, that it should be supported out of the revenues of the country. The Surgeon's residence and salary are not equivalents for the labour of his office. To all public institutions of this nature in France and in Britain the Surgeons are allowed extensive private practice. Public institutions would not be in possession of the first and most experienced practitioners of the age were this not the case. The young physician who attends on the leper asylum is not in the Company's service, and is dependent upon his practice for his bread. 100 rupees a month and the allowance for a horse is not much for his skill, of which we have given proof in our present number. Is the writer of the extraordinary article in the Hurkaru a resident in Chowringhee on the receipt of thousands a month? It is such men as these who would deny the labourer his hire and begrudge the sacred tithe for the poor.

To the Editor of the India Journal of Medical and Physical Science.

Dear Sir,—I observe that, in your number for June, you have, in your editorial on the subject of Native hospitals, done me the honor to quote a paragraph from a letter of mine.

The paragraph so rendered, and without what goes before it, is somewhat obscure; but it is not that consideration which tempts me now to address you, but the wish, humbly yet anxiously, to further the noble objects which you are so ably advocating.

I confine my views to establishing Native hospitals at the Civil Stations of the different districts of the country, and it shall be the purport of this letter and perhaps of succeeding ones to point out by what means such a desirable object is to be attained. It behoves me first to shew that a necessity exists for such institutions. Alas! that the proof should be so easy, there is not a day passes without my being consulted by numbers of natives labouring under diseases, for the successful treatment of which it would be necessary that they should have long and continued medical attendance. Ulcers—bronchocele, diseased spleen, and intermittent fever, ascites, diseases of the skin, stone in the bladder are some of the diseases to which I allude. In these much good cannot be done but by prolonged treatment, and without an hospital how are they to have this treatment? Detached and living at their homes, the patients cannot come for daily advice; and, even allowed to remain about my premises, as they often are, a few days exhausts their small resources of money, so that it ultimately comes to my being obliged to let them depart uncured or in my keeping them at my own expense. That I do the latter sometimes, is not mentioned here to proclaim my own humanity. I know there is not a Civil Surgeon in India who does not do the same. But what is the other side of the picture? it is, that we are obliged to leave hundreds of suffering wretches uncured of their diseases!

I have made out this part of my case. The fact is too true, that there are hundreds of sick natives about this, and, I may say, every Civil Station, who would gladly avail themselves of medical advice if they could obtain it, which they cannot; because there is no Native hospital.

We are now to consider the probable means of founding such institutions. In countries where the governors and the governed have a community of feelings, of religion, and of interests, we find such institutions supported both by the public and the Government. In the interior districts of this country we have nothing to hope from the public, because there is in reality no public feeling of any kind. We must, Sir, look to the Government; and, having shewn the necessity of such institutions, I hope that we shall not look in vain.

I am not one, who, comparing the government of this country with those of the civilized nations of Europe, and yet more absurdly with Utopany perfections which are the creation of a vivid imagination, condemn the Company's government of India as oppressive and unprincipled.

If we make comparisons, in all fairness let them be made both ways. Is not the Company's rule, when contrasted with that of the Native powers, a good and a protecting one?—assuredly. And let me add, without going deeply into a subject somewhat foreign to my purpose and greatly above my ability to do it justice, that much of the evil which we deprecate in this country has its seat in religious prejudice, in conventional manners, in the effects of centuries of misrule, invasion, and barbarism. Evils springing from which sources cannot be got rid of in a day nor yet in centuries.

The spirit and the theory of our government is good; it is the detail and working

of it which, I think, we must admit to be imperfect.

Let the Philanthropist point out the objects by which we may increase the general happiness; the political economist those schemes by which we can improve the commercial intercourse between that and other countries. Let us, Sir, confining ourselves to those subjects fairly coming within the province of a publication like this, endeavour to shew respectfully, but as becomes men who eat bread (or its salt as the Native idiom has it,) and who wish to serve it honestly, that there is a serious obligation on the Government of India, to do something towards founding medical charities over the country, seeing that there is no other feasible way by which this desirable object is to be accomplished.

In my next letter I purpose to offer some suggestions for the management of the charities, supposing that the Government shall be disposed to appropriate a definite sum yearly to the above purpose. Let me conclude this one by earnestly calling upon my professional brethren at Civil Stations to exert themselves in this matter. A respectful application to Government, through the proper authorities, could meet with no worse reception than a denial. I, for my part, am disposed to augur more favorably of things if the service would be unanimous in its appeal and if backed in that appeal by the Civil local authorities.

I am, Dear Sir, yours faithfully,

K. Mackinnon, M. D.

Civil Asst. Surg.

Tirhoot, June 16, 1836.

MEDICAL AND PHYSICAL SOCIETY'S MEETING.

Saturday, Evening, July 2, 1836.

Dr. Ranken, in the chair.

Present Mr. Egerton, Dr. Dempster, Dr. Goodeve, Dr. D. Stewart, Dr. Cantor, Dr. O'Shaughnessy, Mr. Brett, Mr. O'Shaughnessy, Dr. Marshall, Dr. McClelland, Mr. Corbyn.

Dr. A. Stewart, Assistant-Surgeon, proposed at the last meeting, was elected a member of the Society.

The following gentlemen were then proposed as members.

—Drummond, Esq., Surgeon to the Right Hon'ble the Governor-General, by Mr. Bramley, seconded by Dr. Goodeve.

Dr. Marshall and J. Dodgson, Esq., Assistant-Surgeons of the Bengal Establishment, by J. Dempster, Esq., seconded by Dr. D. Stewart.

Letters from the following gentlemen were then read.

From J. Boswell, Esq., Assistant-Surgeon, Prince of Wales' Island, J. Forsyth, Esq., Assistant-Surgeon of the 55th Regiment Native Infantry, and E. Watson, Esq., Assistant-Surgeon of the 69th Regiment Native Infantry, requesting that their names might be withdrawn from the Society.

From W. Kerr, Esq., of Paisley, acknowledging with thanks the compliment of his election as a corresponding member of the Society.

From D. S. Young, Esq., Staff Surgeon, Nizam's Army, describing the properties and mode of preparation of a species of oil; a specimen of which he forwarded to the Society for trial.

The oil is the expressed juice of the Moorung Kai, (the Hyperanthera Morunga of Botanists) and is said to be the basis of macassar oil. Mr. Young states that it is quite equal to that far-famed oil for all the purposes for which oil is applied to the hair, and that it is used by the native doctors as an external application in rheumatism.

The oil is of a beautiful straw color, perfectly clear, and transparent, congealing at a low temperature. Mr. Young thinks its use may supersede the expensive patent hair oils, at present so extensively employed.

Dr. Stewart said that he considered the discovery made by Mr. Young rather important, although, from the circumstance of its having been sent to the Society for trial, it seemed to excite the mirth of the members of the meeting, for his part he must confess that, in reply to his lady patients who were continually making application to him for some such application, he was compelled to acknowledge his inability to comply with their request. Dr. Stewart would like to learn from Dr. Goodeve or members present, whether the cause of baldness was really owing to a want of vitality in the roots of the hair.

Dr. Goodeve in reply said, he was really unable to tell whether such want of vital power did exist in the roots; he did not think any physiological fact had been established regarding the power of promoting the growth of hair; blisters were supposed to possess it.

From G. Playfair, Esq., containing a description of a set of native lithotomy instruments with which several operations for urinary calculus had been successfully performed by a native doctor. The letter was accompanied by the instruments themselves,

consisting of a knife and a blunt hook like a small vectis. They are both of the rudest description, especially the former, which is apparently an old gardener's clasp knife, the blade about two inches long, the edge nearly as blunt as the back, and attached to the handle by a most ricketty joint; indeed it is hardly conceivable how any one could operate with such tools, but Dr. Playfair states that he has seen several of the calculi which had been extracted by this apparatus, and the operation has been witnessed by some gentlemen of his acquaintance.*

Dr. D. Stewart then laid before the Society, the details of a case of cholera in which a solution of salts had been injected into the veins, but without success.

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* Mr. Brett has kindly favored us with the following remarks on this subject.

"It has fallen to my lot to witness the operation by similar instruments to those forwarded by Superintending Surgeon Playfair, with the addition of a packing needle to the set, and an old razor, which was preferred to the knife.

The patient was seated on the lap of an Assistant, with his back towards the Assistant's face. The hands were secured under his hams, the thighs being bent at the acutest possible angle, and the knees likewise.

The operator commenced by kneeding the abdomen, with his hands, well lubricated with oil, and pressing the bladder, moderately distended with urine, from the Slypoguokie Region downwards, towards the outlet of the Pelvis; and keeping up the pressure with his right hand, he introduced the face and middle fingers of his left hand into the rectum, as deep as possible, grasping the stone behind the base of the Prostate gland, drawing the stone to the Pereneum where it made a distinct projection.

The packing needle was then employed by plunging it into the pereneum, striking the stone, and removing all doubt of the presence of the Calculus in pereneo, before attempting any incision. These efforts were attended with a considerable deal of dragging and distention of the internal parts.

Inclining the patient more towards the horizontal, he now commenced the incision a little to the left of the Raphe, making repeated and hesitating cuts: Introduced a sharp scalpel into his hand, and induced him to enlarge the incisions considerably. When he had so done he passed the hooked extremity of the vectis behind the stone, by a digging effort, and applying the power to the handle using the arch of pubis as the prop, he, by main force, started out the stone, breaking it, however, into a number of pieces; the calculus was soft, of the friable description.

I endeavoured to mitigate the sufferings of the patient by all the suggestion I could make, and had I not insisted on larger and bolder incisions being made, and allowed the vectis to be introduced until they were completed, or had I not checked his hand when using the cutter to force out the stone, with great violence, fatal consequences must have ensued. The operator admired the European instrument shewn him, and acknowledged their infinite superiority. A native operator *confessed* that the average mortality was 40 per cent.

The patient, a pale, slender individual, 34 years of age, was admitted into the General Hospital at 9 A. M. on the 1st of this month. At twelve, the night before, he had been seized with sickness at stomach, slight cramps in the lower extremities, and he had passed one loose evacuation, for which he took compound jalap powder, after which he had upwards of 20 loose stools and frequent vomiting, and general spasm of the extremities: when he came into hospital his skin was cold and wet with perspiration, fingers shrivelled, countenance livid and shrunk. A scruple of calomel was administered with 3 grains of opium followed by spirit ammonia aromatica, one drachm mistura camphoræ, one ounce and a half, and a sinapism to the epigastrium; brandy and sago occasionally. At 10 A. M. 10 grains calomel with 6 of colocynth and 2 drops of oil caryophili, were ordered to be taken every half hour with the camphor and ammonia mixture. At 3½ P. M. the blue color of the face and extremities was well marked, purging continued, but there were no cramps, tongue was thickly furred, pulse a mere flutter. He had already taken 80 grains of calomel, Dr. Stewart resolved therefore to try injection into the veins. Accordingly a vein having been opened in the arm four pints of the following solution was injected:

Carbonate of Soda,..... 2 scruples.
Muriate ditto,..... 3 drachms.

Distilled water at the temperature of 114° f.—4 pints. During the operation the pulse rose, the patient respired freely, face became flushed and eyes animated. The voice which was previously puerile recovered its natural tone. The skin of the extremities remained warm for half an hour, but pulse continued very unsteady. He continued sensible until 5½ P. M. when he gradually sunk and died in convulsions. On examining the body after death, the viscera of the abdomen were found vascular, liver large, of a pale buff color, gall bladder shrunk and containing but little bile.

The right ventricle of the heart was distended with fluid blood containing numerous air bubbles, a great part of which gushed out with a gurgling noise. The same appearance was observed in the right auricle and superior cava. The bronchial vein gave out two or three small bubbles of air. Dr. Stewart remarks that in injecting the solution the greatest caution was used, and he is convinced that not a particle of air entered the vein.

Dr. Stewart rose, and remarked that it might be considered desirable that he should state that Cholera had been prevalent, but he lamented to add that no case of his had recovered but expired after a lapse of twelve hours from the attack. Dr. Nicolson, how-

ever, had a case which had been prolonged to three days.

Dr. O'Shaughnessy remarked that with reference to the air bubbles being found in the ventricles of the heart, as related in Dr. Stewart's case, he remembered a case of Dr. Green's, whom he assisted in the dissection, when the bubbles alluded to were discovered, these air bubbles had never been analysed, it did not follow, however, that it was atmospheric air, it might have been oxygen or some other gas; but which could only be decided by experiments. Dr. O'Shaughnessy, adverted to the symptoms of convulsions which occurred in these choleric cases, and said that there had been much inattention to the temperature of the injections which should never exceed 102° Fah.

Dr. Dempster said, that in 1833, he had occasion to give trial to the plan of injecting saline substances into the veins, no less than 3 cases had been injected; in all of whom the disease proved fatal, the effect immediately after the injection was apparent excitement or re-action but it was only temporary. Dr. Burke had furnished him with directions as to the temperature which was at 110° to 114°, the temperature recommended in the Medical Gazette. On dissection, he, Dr. Dempster, had observed in one case similar bubbles of air in the heart alluded to by Dr. Stewart; it was, however, but right to add that the water employed in the injections was not distilled water.

Dr. Goodeve thought that it was a very important observation of Dr. O'Shaughnessy's on the doubtful nature of the air bubbles, as he knew a gentlemen who was deeply concerned on discovering similar bubbles after dissection supposing that he had introduced atmospheric air with the injections. He Dr. G. thought we should be careful, in the matter, for it was generally considered that the highest temperature to which the body could attain even in a state of fever is 110°. John Hunter said it could not rise above 104°.

Mr. R. O'Shaughnessy said that he had himself performed the operation three times in Dublin; one was in a case of a young woman who was seven months gone with child having previously ascertained by the sthethoscope that the child was dead in the womb, the woman was cold, pallid, and in the last stage of cholera. He injected the fluid at 98°, her pulse became stronger and fuller, her voice which had been feeble became strong. She, however, relapsed. The injection was renewed with similar temporary success.

Dr. Stewart was anxious to learn from Dr. O'Shaughnessy whether catharsis continued, he desired to know distinctly on what ground he was to proceed. If he found the discharge prove serous would he be justified in using the injection? He might add on the subject of the temperature of the injection that Mr. Twining used from 110° to 115°; but all Mr. Twining's cases were fatal, he had hoped to excite action from the great centre, and finding the usual stimulants fail, such as blisters, &c. on this account he was desirous to use the greatest stimulants by adopting the high temperature he did. In future, he should try that recommended by Dr. O'Shaughnessy.

Dr. O'Shaughnessey stated that he knew of two cases in the Horse Artillery successfully treated by Dr. McCrae by injecting with saline substances, the operation was conducted according to Dr. Latta's system; but it was at the close of the epidemic.

Dr. O'Shaughnessy resumed; adverting to Dr. D. Stewart's questions regarding catharsis, he begged to observe that cases had occurred to his knowledge in Paris, called dry cholera; that is there was no catharsis. But the serous fluid was found in the intestinal canal.

Dr. Goodeve said, that cases of that kind had come under his notice at Midnapore, the whole of whom died; these had only one stool. In reply to Dr. Stewart's question to supply the serum it would be necessary to appropriate the temperature of the injections to the natural temperature of the human body.

Dr. MacClelland thought that experiments might be tried on animals, the dog might be reduced to a state similar to that of cholera at which period the injections should be introduced.

Dr. O'Shaughnessy would observe that croton oil would produce catharsis similar to that in cholera.

Mr. Corbyn would intrude a few words on the subject; it was always an exciting one, for great was the difference of opinion as to the mode of treating this terrific disease. With the view he had always taken as regarded the management of cholera, he did not coincide with Dr. Stewart in his treatment; he, Mr. Corbyn, objected altogether to the use of stimulants especially such an one as brandy, he did not think therefore that in cases where stimulants had been used a fair trial was given to the value of saline injections. Dr. Stewart had said that he, had carefully excluded the introduction of atmospheric air in his injections, and that he had moreover used distilled water; but he, Mr. Corbyn, could not well understand

how atmospheric air could be excluded although the water was distilled, and he now put the question to Dr. O'Shanghnessey whether in the act of pouring the solution from the vessel into the syringe, it would or would not absorb atmospheric air. Mr. Corbyn meant to say, that distilled water would as readily absorb if brought in contact, atmospheric air as undistilled water. Mr. Corbyn did not advert to this fact with any view of leading members to suppose that it was his opinion that a small quantity of atmospheric air would be productive of the evil consequences supposed to follow on its introduction. Experiments had shewn that a small quantity of atmoshperic air might be introduced in the circulation with impunity, these experiments had been proved by Blundel and others. Mr. Corbyn regretted greatly that the saline solutions injected in the veins had failed: no supposed remedy had met with a fairer trial than this which had however proved invariably unsuccessful.

Dr. O'Shaughnessey begged to deny that it had invariably failed. He had just mentioned some cases in which it had been successful; Latta, Green, and others, had successfully injected saline solutions. On the subject of introducing atmospheric air through the medium of distilled water, he was willing to admit that distilled water would absorb atmospheric air on being brought in contact with it. As to the danger of admitting atmospheric air into the circulation that had been fully ascertained; he had shewn Mr. Corbyn Nysten's experiments, but as he looked upon Mr. Corbyn as a man of candour, he begged to be informed whether he had not received a recent work from Paris, in which a description was given of experiments which had proved the fatal effect of introducing atmospheric air into the circulation, but theseMr. Corbyn had not published.

Mr. Corbyn said that he had received such a work stating such experiments had been made with the result alluded to, but that he had communicated the intelligence to Dr. O'Shaughnessey.

Dr.O'Shaughnessey—it was Mr.Wimberly.

Mr. Corbyn said that Mr. Wimberly was present and stated the fact also, there was, however nothing new in the experiments now alluded to.

Dr. O'Shaughnessey begged to be informed whether Mr. Corbyn had ever himself used the injection of saline substances.

Mr. Corbyn stated that he had not, for he was fully satisfied with the efficacy of his own plan of treating cholera, he was, however, nevertheless desirous of having that important question settled; as to the quantity of atmospheric air which could with impunity be injected into the vein, he therefore proposed, seconded by Dr. Cantor, that the members of the Society present at the meeting be formed into a committee to experiment upon, and report, on the extent to which injection into the veins may be practised with safety upon animals, and likewise the effects of aqueous solutions of saline substances at different temperatures. Dr. O'Shaughnessy to be the Secretary to the Committee.*

This resolution was unanimously agreed to.

A case of extensive liver abscess successfully opened by A. Colquhoun, Esq., was then read and discussed.

The patient was a European, who had been under medical care for some months before Mr. Colquhoun saw him; when that gentleman took charge of him on the 23d April, he was in a state of great debiltity, pulse small and quick, pain in right side, encreased on pressure, or on taking a full inspiration, tongue and skin natural, bowels confined. From the treament he had previously undergone, and his general weak state, Mr. Colquhoun did not like to venture on general bleeding, but leeches were frequently applied to the side and a caustic blister, purgatives occasionally, and a scruple of calomel every night were administered.

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* Note by Dr. O'Shaughnessy. In justice to the subject, one in which I take the deepest interest, I feel bound to state that the report of my observations is imperfect from beginning to end. Neither the facts I stated nor the mode in which they were described are correctly represented. I am reluctant to make these remarks on Dr. Corbyn's report, I know he intends every fairness, but he is not successful in his stenographic efforts.

W. B. O'Shaughnessy.

While our friend O'Shaughnessy sends us this note as an embellishment to our report, he also, we were happy to find, had made some slight corrections in the proof we sent him for that purpose. We have always looked upon a reporter to be something like a portrait painter unless the latter delineates the features according to the wishes and expectations of the person whose countenance is taken, the performance though accurate according to nature, is the reverse in the employer's fancy. Thus it is with a reporter unless he paints those lively turns to his speakers' imagination however correct the matter and substance of detail may be the reporter is no stenographer and his labour altogether vain. Our friend says he feels deep interest in the subject discussed and yet he declined the opportunity offered him of giving perfection to his observations and imparting that interest to others; he rather prefer's the publication of the imperfect report of his observations from beginning to end, by directing us to append the foregoing note, instead of indulging his professional brethren by remodelling our imperfect sketch of his part in the discussion.

These remedies produced no sensible effect, and about the 6th May fullness and prominence of the side became distinct. These symptoms increased till the 15th, when the tumor was opened by an incision about two inches in length. From the opening seven pints of reddish yellow pus was discharged in the course of half an hour; this afforded him great relief, he could lie down comfortably, which he could not do previously. At 9 P. M. Mr. C. was suddenly called to see the patient; he found him pulseless, cold and nearly dead, from hæmorrhage of some small vessels in the abdominal parietes; several pints of blood were lost, and the bleeding was at length stopped by pressure of a pledget soaked in oil of turpentine. The wound was dressed with a simple dressing and a bandage; a mixture of sulphate of quinine with sulphuric acid given twice daily, and an opiate at night. On the 17th, he was allowed a bottle of beer a day. He continued for some days weak, exhausted, and slightly feverish; occasionally small quantities of thin pus were discharged from the wound. Gradually, however, he gained strength, and improved till the middle of June, when a troublesome diarrhœa came on. From this he recovered, and at length was discharged perfectly cured. Mr. Colquhoun saw him in August last marching with his company in perfect health.

Mr. Colquhoun remarks that this is the most extensive liver abscess successfully operated on which has been recorded. He states also that after the operation he did not follow the practice recommended by most authors, that of filling the cavity of the abscess with lint: indeed from the magnitude of the abscess all the lint in Benares would not have sufficed for one dressing, Mr. Colquhoun is inclined to think that it is better to apply external pressure than to irritate the abscess by the presence of a large foreign body, especially when that abscess is situated in the centre of so important an organ as the liver. The writer also notices the alarming hæmorrhage, and seems inclined to believe that it may in some measure have contributed to the patient's ultimate recovery by keeping down inflammation and checking the secretion of pus.

SOME RECENT CASES AND TREATMENT OF CHOLERA.

We regret to say the cholera has been prevailing during the past and present month. We have been favored with the accompanying report from Mr. Perkins.

Case 1. One afternoon I was called to see a Portuguese Sailor, aged about 40, who had been suffering for 4 hours under acute diarrhœa, thinking it to arise from the presence of some acrid irritating substance in the intestinal canal there being no other distressing symptoms present, I administered two pills containing croton oil; this was at 4 in the afternoon. At 10 at night I was again sent for, and found the patient with all the symptoms of spasmodic cholera. I then administered pills composed of opium and assafœtida, but they were constantly rejected during the night. The patient had severe spasmodic contractions of the fingers, toes, legs and stomach, which were relieved by mustard poultices. The vomiting and watery evacuations continuing; at day light I gave calomel ℈j. and 60 drops of laudanum, which immediately allayed the "gastric" intestinal irritation. I then administered pills composed of tartar emetic and extract of colocynth, with a view to produce reaction by exciting the bowels, but the vital powers were exhausted, difficulty of breathing came on, and the patient died at 4 P. M. In this case I think the croton pills were prejudicial, though they were not contra indicated at the time they were given, there being no symptoms of cholera present: in all bowel affections, however, I think this a dangerous remedy. The effect of the calomel and laudanum was so instant, that had it been administered some hours earlier, the case might have had a different result.

2. This case was also a fatal one; it occurred in a Portuguese boy, aged 10. He had been purged for 2 days previous to that on which I saw him. When I first saw him he was rapidly sinking; he had been in the collapsed stage many hours; all medicines were immediately rejected. The child was shamefully neglected until about an hour before his death, when the affections of his family appeared to awake, and they exerted themselves in rendering him all the assistance they could; he died at 4 P. M. 6 hours after I saw him.

3. This case occurred in a poor mussalmaun woman, a widow. On visiting her I found her cold; countenance cadaverous; eyes sunk; pulse imperceptible, burning heat in epigastric region, and strength completely prostrated; I gave her a scruple of calomel and a pill of opium and assafœtida which instantly stopped the vomiting and purging. The pain at the præcordia still continued, and the extremities were still cold, and bedewed with the cold, clammy perspiration so characterestic of the disease. I then gave her the colocynth and

tartar emetic pills, and as they did not operate quickly. I added a dose of infus senna cum magnes sulph. this produced some feculent evacuations and immediately warmth began to return to the extremities, and the pulse to the wrist. The woman was in 2 days quite well and pursuing her accustomed avocations. After 8 days she was again attacked, probably from the use of improper food, I was not sent for but after having twice vomited, and having two watery stools, she died. The fatal termination of this case does not however at all interfere with the treatment pursued, as the woman was quite well in two days after the first attack she also was neglected by her relatives, when first I visited her the stench of her miserable hovel was insupportable.

4. A strong native man sent for me, he had been dreadfully purged about 6 hours, his first motion was feculent, and all subsequent ones watery. He had vomited excessively. The pain at the epigastrium was agonizing; he was a domestic servant and lay on a charpoy in the stable of his mistress, who unable to bear the sight of his agonies, and to hear his groans, had left the house. I gave instantly calomel ℈j. Tinct. Opii. guttæ 120 in a little water, immediately on swallowing the medicine the spasms of the stomach returned. I spoke cheerfully to him and begged him if possible to avoid vomiting. In a quarter of an hour the pain left him, he turned on his side, and said, Saheb, you have saved me; the pain was killing me, it was tearing my life out, it is now gone, I want to sleep. I left him to do so, and after an hour gave him a Rad. Jalap pulv. ʒss. potassæ supertart, ℈j. which opened his bowels well. The morning following he came to my house to thank me, and was quite restored.

5. This case occurred in a little boy about 4 years of age: he was brought to me by his mother who told me that he had been attacked with vomiting and purging 4 or 5 hours previously, which still continued. I gave him 8 grains of calomel with 2 of colocynth. The child's pulse was not to be felt, his eyes much sunk, countenance anxious with great prostration of strength, combined with intolerable thirst. He was constantly crying out for water, and drank a strong solution of common salt with avidity. Finding the first dose of calomel had not allayed the purging and gastric irritation, I gave him again 8 grains of calomel and 45 drops of landanum, and ordered him to drink salt and water, or rice water with plenty of salt. After this the child's restlessness and thirst diminished, the pain and heat at the præcordia subsided, and after taking an opening draught he was quite restored.

Those of the above persons who have recovered are now living in my immediate neighbourhood, and any further information you may require concerning them I shall be happy to afford.

We regret to say that within a few days past, the cholera has appeared in two cases in the South Barracks Fort William. We directed Mr. Peterson to draw up the account of them. We have also had one case in the family of M. Latour, Chitpore road; it occurred in a girl about 13 years of age, the pulse in her was scarcely to be distinguished; re-action took place, and she recovered.

TO F. CORBYN, ESQ.

Sir,—In compliance with your request, I beg to submit the two following cases of Cholera treated in the South Barracks.

Mr. D. Fleming, Assistant Apothecary sent for me on Sunday afternoon, 24th July, 1836, 3 P. M. complained of having had diarrhœa since 12. no pain, pulse quick and small, tongue furred.

R. Calomel, gr. x opii. gr. 1 ft. Post hor. 4 ta Ol. Ricini ʒj. Ft. Sennæ. Co. ʒij Aq. menth ppt ʒiss.

7 P. M.—The pills and oil rejected. Has been vomiting several times, much anxiety of countenance, with occasionally spasms of the lower extremities. Has had but one evacuation since 3 P. M. of the appearance and consistence of congee; thirst very urgent, with great irritability of stomach, accompanied with extreme restlessness. Pulse quick, low and fluttering.

Habt. Stat. Calomel gr. xv.

Sinapism to the belly and full hot water bottles to the hands and legs.

8 P. M.—The calomel was rejected, complains of a heavy pain about the scrobiccordis, with some difficulty of breathing; retains nothing on his stomach; in other respects much the same as at last report*.

Hirudines xx. part affect.

Rep. Calomel ℈j,

The Calomel was rejected and was again repeated which at length he retained.

11. P. M.—Skin warmer—pulse more natural; has had no return of vomiting; restlessness, however continues. Expression of countenance much relieved.

Congee, with table salt for drink.

3 A. M.—Feels easier; leeches have bled freely; respiration now easy; no vomiting.

P. Jalap comp. ʒiss. statm.

25th. 8 A. M.—Finds himself much relieved; is entirely free from sickness; bowels

* We visited and prescribed hence forward.

have been opened three times; evacuations of a dark appearance; skin rather hot.

R. Extr. Colocynth. C. gr. x.
G. Assafod. gr. x. m. ft. pill.
ij. bis die.

26th.—Feels quite well this morning; complains only of debility.

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*Case of Mr. B***** Cadet, July*, 1836.

26.—Was sent for this morning at 8 A. M. by the above gentleman. He complained of having frequent loose evacuations with an oppressive heavy feeling about the head with spasmodic cramps of the legs and fingers; skin perfectly cold; pulse imperceptible; has no thirst nor any disposition to be sick at stomach; adds that he has been uneasy since 12 last night; been continually exposed to the night air going to the privy.

Calomel gr. xx. statem. sinapisms to the feet with hot bottles to the extremities*.

Hirudines xxxx. to the chest and pit of the stomach.

10 A. M.—Continues much in the same state; skin cold; pulse not perceptible; has had no return of purging.

P. Jalap C. ℥iss.

11 A. M.—Skin covered with profuse perspiration, cold and clammy, Respiration hurried. Pulse not preceptible at the wrist.

Hands shrunk; nails blue; cholera visage; voice pectoral; complains of no pain or uneasiness, no thirst.

Rept. Hirud. xx.

R. Extr. Col. C, gr, x. G. Assafæd. gr. x. M. ft. pil. iv. ij. om. hora.

1 P. M.—Skin somewhat warmer, pulse perceptible‡ no stool, states that he feels better and a disposition to sleep.

Rep. Pil.

Congee with table salt for drink.

4 to 2 P. M,—Took a change within the last ¼ of an hour for the worse. Extremities very cold; no pulse with some degree of restlessness. Breathing heavy. Continued in this state till 2 P. M. when he died.

I am, Sir,
Your obedient Servant,
F. H. PETERSON.

Remarks.—This young officer was under the influence of the disease for 8 hours without taking means to remove it, although persuaded by his young friends to do so, who knew from his appearance that he was seriously unwell. We understand he was exceedingly negligent of himself; his bowels were not moved for seven days together. The leeches were very languid, only 16 dropped off and these were only half filled. In this case where collapse was so complete no blood could be obtained by the veins. The Sinapisms had made no impression on the cuticle.

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* We visited and prescribed.

† These are Mr. Petersons own remarks and observations of symptoms. It is striking the effect of the leeches. As soon as they were applied in Mr. Fleming's case a similar change took place.

PROCEEDINGS OF A QUARTERLY GENERAL MEETING OF THE SUBSCRIBERS TO THE MEDICAL RETIRING FUND.

A Quarterly General Meeting of the Medical Retiring Fund was held on the 11th instant:—on Mr. Superintending Surgeon S. Ludlow being called to the chair, the following report of the Committee of Management was read.

Since the last Quarterly Meeting held on 11th of April, 1836, the Management have received official intelligence of the establishment of the Fund by the sanction of the Hon'ble Court of Diretors, in a letter from Colonel Casement, Secretary to the Government of India in the Military Department, which has been circulated to subscribers, and published in the newspapers for general information.

The provisions of the Court's sanction are most satisfactory. In the first paragraph of their letter it is stated that a clause is directed to be inserted in the covenants of assistant-surgeons who may be appointed on this establishment by which they will bind themselves to subscribe to the Medical Fund. In the second, the disposal of the surplus funds is left to the Managers; and the Hon'ble Court do not object to the remittance through private agency of annuities granted in excess of those remitted through their treasury, provided that not more than the six annuities specified in the regulations be granted in any one year. A retrospective operation of the fund is also sanctioned from the 1st of January, 1833.

A part only of one regulation is objected to; the Hon'ble Court requiring a modification of Regulation 1. of section V. of the rules of the fund, by excluding from the class of medical servants who may receive back their subscription those who shall be sruck off' or ' dimissed the service.'

The committee having carefully considered the purport of Colonel Casement's letter and its enclosure, respectfully tendered their thanks for the benefits thus conferred.

The committee further resolved that a circular letter be forthwith addressed to the service, to declare the fund in actual operation, to state to the subscribers the amount of arrears of subscription; and to request them to pay those arrears with interest, within a period of 12 months; and call upon those members of the service who have not joined the fund, to do so within three months from the date of the circular letter, and to inform them also of the arrears of subscription, &c. due in like manner as mentioned above.

In conformity with this resolution a circular letter to non-subscribers is in preparation, a copy of which will also be sent to subscribers for their information; and so soon as the accounts can be prepared the particulars of arrears, with interest, will be communicated, but owing to their number some time must necessarily elapse before this can be done.

The Committee anticipate no objection on the part of the subscribers to comply with the Hon'ble Court's stipulation with regard to Regulation I. s. V., and accordingly propose that the words "struck off," and or "dismissed the service," be omitted; and that the Regulation do stand as follows.

"Persons retiring from the service before having served seventeen years, persons transferred to the Pension Establishment, may refer their particular cases to the subscribers in India, through the Committee of Managers, and should a majority prove favourable to the measure, they shall receive back the whole or a portion of their subscriptions with or without interest." A similar modification must also be made of Regulation 5, section 3rd, but any decision come to here will, of course, be subject to confirmation by the subscribers; to whom the question will at the earliest opportunity be submitted.

Some doubt being entertained as to the rate of interest allowed by the Government, upon the money already in the Treasury belonging to the Fund, Colonel Casement has been addressed upon the subject, and the committee have expressed a hope, that the indulgence of six per cent. may be considered to extend to all sums heretofore paid in, as well as to those which may be hereafter collected; and that such Interest may be calculated from the date on which the subscriptions are deducted from the salaries of the subscribers.

Mr. Mercer having tendered his resignation of the Office of secretary, the Management accepted the same; and passed a vote of Thanks to that gentleman for his great exertions, and zealous co-operation, in their past labors; and Mr. Pearson was elected to the situation subject to confirmation by the subscribers; in obedience to regulation 6 of section 4.

Letters have been received during the quarter from the following gentlemen. viz., from Messrs. Bagshaw and Co., requesting on the part of Mrs. Burnard, a refund of the subscription of the late Mr. Surgeon R. N. Burnard; which, as the decease of that Officer took place before the Establishment of the Fund, the Management have thought it right to agree to. From Mr. Assistant-Surgeon G. N. Cheek, requesting to be informed if there is any rule in the Fund excluding assistant-surgeons who have given up promotion from its benefits, and if so to submit the point for the vote of the subscribers. The committee in reply quoted the passage in the Preamble to the regulations which excludes assistant-surgeons who have given up promotion, and stated that they shall be happy to take the sense of the subscribers upon his case, if he will be good enough to favor them with such arguments as he may deem to meet its peculiar circumstances. From Col. Dunlop stating that he is instructed by Mr. superintending Surgeon George Gunning Campbell, now on Furlough, to make arrangements for payment of his arrears of subscription, and for future monthly subscriptions. From Mr. Assistant-Surgeon J. Bowron, requesting a statement of arrears, and information as to the usual course of payment. From Mr. Assistant-Surgeon J. F. Steward, containing arrangements for the payment of his arrears of subscription, and from Mr. Assistant-Surgeon A. K. Minto, requesting similar information previous to forming his determination to join the Fund.

By a communication from Mr. Morley there appears to be a sum of sicca rupees 78,602.6.7 to the credit of the Medical Retiring Fund, exclusive of interest, without taking into account the collection in north western Provinces. The Accountant-General further states that interest will be allowed on the balances at 6 per cent. per annum. No statement of receipts has been rendered during the quarter. The expenses have amounted to Company's rupees 390, 13.10

As it is of great importance that a deed of the articles of the fund be prepared at an early period for the signature of the members, Messrs. Collier, Bird and Grant, have been instructed to prepare one and it is accordingly, now in progress.

The number of subscribers at present on the list is 2 members of the Medical Board, 7 Superintending Surgeons, 58 Surgeons, 81 Assistant-Surgeons of the 1st class; 25 ditto

of the 2nd class, and 2 ditto of the 3rd ditto—Total 175.

Finally, the Committee of Management have to congratulate their constituents, upon the fair prospect which has opened before them. No doubt there must be some difficulty in bringing the Institution fairly into operation ; especially with regard to the payment of arrears ; but the inconvenience of this is but temporary, while the advantage will be important and lasting ; and from the zeal and unanimity now displayed, well grounded anticipations may be indulged of every success.

After the report was read a discussion arose on the subject of Mr. Cheek's letter.

Mr. Mercer was of opinion that as the fund was for the purpose of accelerating promotion no such application could be agreed to. The rule of the fund was opposed to it which he in the first instance proposed.

Mr. Garden concurred in opinion that the rules excluded all who had given up promotion previous to the establishment of the fund.

Dr. Goodeve considered the whole object of the fund was to facilitate promotion. We were not an insurance society, he therefore gave his unqualified dissent to Mr. Cheek's admission.

The chairman. The question is, whether the meeting has the power to decide the question whether it should not rather be submitted to the service. The chairman was of opinion that if Mr. Cheek was admitted there would be some difficulty were to place him on the medical list.

Mr. Mercer said it was in Mr. Cheek's power to submit the question to the service:

Mr. Raleigh observed that Mr. Cheek's was not a singular case.

The chairman,—then the case is obviously inadmissable.

It was proposed by Mr. H. S. Mercer, seconded by Mr. Raleigh, and carried unanimously.

That the report now read be confirmed and adopted. The next question considered was the payment of arrears. Mr. Pearson stated that this was an important question as regarded the payment. There were two calculations, one for the annual balances the other taking interest on each day as it became due ; he desired to be informed which mode was to be adopted whether the liberal mode ?

Chairman,—have the goodness to read out the calculations. *(Here the Secretary read the principle on which the calculations were made)* Mr. Mercer advocated the annual balances and proposed.

That the arrears of subscription of Members due to the Fund shall be calculated with interest at 8 per cent. upon annual balances, and not upon their monthly contributions.

Mr. Raleigh, did not see the propriety of taking interest at all, since no use had been made of the capital, and proposed as an amendment, that in consequence of the Fund not having been actually established until the present period, and it being an object to lighten as much as possible the pecuniary demand on subscribers, I propose that the retrospective subscription from January 1833 up to the establishment of the Fund, shall be called for without any demand of interest on the arrears, and that the amount of interest accruing on the subscriptions already paid into the treasury, shall be carried to the credit of those who have paid it.

Dr. Goodeve remarked that the original rule stated that arrears should be paid up at the rate of company's interest. Mr. Raleigh maintained that the fund was not established until now. Mr. Pearson thought, that excluding interest would have a good effect with junior members.

Dr. Mellis wished to know what the fund would lose by giving up the interest. Dr. Goodeve wished to know the difference with Assistant Surgeons. Mr. Pearson in reply said, fifty rupees. Mr. Mercer thought that acting upon Mr. Raleigh's proposition would be at variance with the regulations of the fund.

Dr. Goodeve was of opinion that the difference was so trifling that subscribers would not care about defraying it when they learnt that in the aggregate it would amount to about 25,000 rupees. Mr. Pearson here begged to call the attention of the meeting to the rate of interest to be charged ; he adverted to rules, page 10 and Reg. 11. Page 11. Rule IV. he thought that by these rules 8 per cent. was put on as a penalty, but that 6 per cent. was the rate of interest on arrears but believing it would be beneficial to the fund to absolve from all interest he would strengthen his opinion by reading a resolution from the proceedings of the Agra committee bearing on the question.

Mr. Sawyers, thought it would complicate the calculations to make deviations. He did not see why there should be any difference shewn between those who have paid their subscriptions and those who have not ; he could not help expressing his conviction that the committee had acted wrong and without authority in suspending the operations of the fund in the first instance.

Mr. Pearson in reply explained that the committee could not have acted otherwise

than they did, when the Court of Directors had only sanctioned three annuitants instead of six. Mr. Pearson then adverted to the question before the meeting and enlarged upon the limited means of Assistant Surgeons; he was himself once at a small civil station when 50 or 60 rupees, now alluded to, as a trifle for an Assistant Surgeon to pay, would have been to him so important an amount that he must have been put to great shifts to spare it. On this account he should support the amendment by Mr. Raleigh and strongly urge it upon the favorable consideration of the meeting.

Mr. Corbyn said he thought all propositions of this nature should be submitted for the votes of mofussul members who were jealous of the over-interference of the committee of management; he alluded to the rules of the military fund, the meetings at which could only examine accounts and pass them. They could not make propositions affecting the rules of the fund and adopt them; these could only be sanctioned by the subscribers generally, who, in the mofussul, were jealous, and properly so, of their votes; they were anxious to have an equal voice in the proceedings of the fund with those few who happened to be congregated at the presidency.

Mr. Raleigh's amendment was then put and carried.

Mr. Raleigh proposed, seconded by Dr. Jackson, and carried,

That it shall be compulsory on intending subscribers, now in India, to signify their intentions to join the fund previous to the 31st of October, 1836, and that the arrears of subscription (exempt from interest) shall be paid up by twelve equal monthly instalments, previous to the 31st August, 1837.

Proposed by Mr. F. Corbyn, seconded by Mr. Ludlow.

That so soon as the Fund deed shall be signed by the majority of the subscribers, either themselves or by their attorneys, the Management be empowered to offer three annuities to the three senior subscribers, in conformity with the regulations, there being now funds sufficient in the Treasury for the purpose; and to offer others in succession as they are enabled to do so by the arrears of subscription being paid in.

Here Mr. Raleigh rose to discuss the question of the number of annuities to be given; he was of opinion that the fund could not be brought into operation until it could give six annuities, which should be guaranteed to the subscribers, Mr. Pearson thought differently, that the fund, might tender three now in perfect accordance with the regulations of the fund, and that it would be an encouragement for members of the service to come at once forward and subscribe when they saw the fund in operation.

Dr. Goodeve took the same views as Mr. Raleigh on this question.

Dr. Mellis thought that the fund was now established, and that annuities should be instantly rendered as all who now entered the service, were compelled by the Court of Directors to become subscribers; this was sufficient guarantee. Dr. Mellis added, that those now looking for annuities and desirous of resigning would be disheartened by any needless procrastination, he therefore strongly advocated the proposion to tender three annuities now.

The chairman concurred in these views. The proposition was then put and carried.

Dr. Goodeve now proposed that an actuary might be consulted to make the proper calculations.

Dr. Jackson seconded the proposition. Dr. Goodeve would have Mr. Curnin consulted on his arrival. The chairman objected to Mr. Curnin being consulted. Mr. Pearson did not see the necessity of any further calculations being made, Dr. Bannister had already offered an able opinion in the calculations; he thought those by the Agra committee correct. Mr. Sawyers said that much pains had been taken to make them so, and they were considered very correct at Agra. The chairman did not submit Dr. Goodeve's proposition; the meeting therefore broke up.

IS MR. PEARSON'S APPOINTMENT A JOB OR NOT?

Some correspondents which have appeared in the daily press say, it is. We are not among the number who despise the voice of the press, although it be uttered under an anonymous garb: it is a voiee that we wish were heard and felt oftener than it is. We admit it is sometimes the vehiele of errors, of slander, and the venom of base passions; nevertheless it is more frequently that of truth and fairness, tho' spoken behind the bush. Under these considerations we attend to the voiee of the press in any garb. We therefore procced to give a plain statement of Mr. Pearson's appointment.—Almost immediately on the reeeipt of the Court of Directors' sanction to the establishment of the fund Mr. Mercer sent in his resignation, which placed the management in a veryawkward predicament, inasmuch as when the fund was about to be launched, the helmsman avowed he was pressed for other duties and could not steer the vessel; but so sensible was Mr. Mer-

cer of the difficulties his resignation would present in bringing the fund into immediate operation that he recommended as his fittest substitute, Mr. Pearson. The qualifications of our brother were acknowledged at a special meeting. It was there suggested by us, that Mr. Bramley, after learning that he had the means, should recommend an Accountant on rupees 100 a month, and that Mr. Pearson should officiate and be recommended to the service for the permanent appointment on 150 more, including establishment and stationary. For such laborious services as the fund involves such a low remuneration was perhaps never heard of. But the fund was desperately poor, and could afford no more, and the management considered themselves under infinite obligations to Mr. Pearson to undertake the Secretaryship on such terms.

The management, however, did no more than recommend to Subscribers a Secretary; it was for them to confirm their recommendation or not. Had the management been ready to recommend, under the urgent circumstances we have stated, they would have been unworthy of the post they fill; but on the other hand had the funds been sufficiently rich to have paid their Secretary a salary equal to that allowed by either the Civil or Military funds; then indeed a requisition for candidates would have been but proper and their names should have been submitted to the service for selection but in the present instance we believe, and so must every one believe, that no competent candidate would have been found to canvas on the terms the fund could afford to offer.

MR. SUPERINTENDING SURGEONS VENOUR AND TWEEDLE.

We are able to state on the best authority that Mr. Venour is expected at the presidency in November, and that he intends to retire from the service. We also hear there is probability of Mr. Tweedle accepting an annuity this year, if tendered by the fund.

GENERAL ORDERS.

Promotions.—July 11, Apprentice J. Christie, to be Asst. Apothecary.

Appointments.—July 19, George Higginson to act as Apothecary. John Hennessy to act as Steward to 1st and 2nd C. 4th Batt. Foot Artillery. 21st G Dodgson Asst. Surg. to do duty 44th King's. 25thT. Sibbald, Asst. Surg. to proceed with a detachment F. H.Brett Asst. Surg. to take charge Governor Generals Body Guard. Asst. Surgeon Bogie M. D. C. S. Shahabad.

Removals. July 6th. Asst. Apothy. William Carrison under the orders of Surg. H. E. C. C. 11th July, M. S. Kenth, Asst. Surg. to the Civil Station, Mooradabad.

Leave of Absence. July 5th, Asst. Apothecary W. G. Carrison from 15th June to 10th Aug. P. A. July 6th, J. Lamb. Asst. Surg. C. S. Malda,one month from 15th prox. P. A. July 8th, H. R. Bond, Surg. from 28th June to 1 Nov. to remain at Benares M. C. 11th July, J. S. Sutherland Asst. Surg. to Europe M. C.

NOTICE TO CORRESPONDENTS.

The following communications shall appear next month.

Sketches of the Edinburgh Medical Professors " the two Doctors Andrew Duncan by Scotus.

Some observations on the Topography of Doranda in Chota Nagpore, by Dr. Dunbar.

Observations on intellectual and Corporeal Action, No. IV. by Mr. Guthrie.

If the lithographic illustrations can be got ready in time, Baddeley's Enquiry into the function and connection of the internal layer of the Retina or Membrana Jajobi.

Dr. Mackinnon on Native Hospitals.

Historical Report. Hospital Practice 2nd or Queen's Royal Regiment, by Mr. Hunter.

Case of Snake bite, by Wm. G. Rose, Esq.

Dr. Dempster's case of lodgment of numerous live maggots within the cavity of the nose of an European soldier accompanied by sloughing of the palate.

We beg to acknowledge the receipt of the following communications.—

Dr. Hunter's (of the 51st Regt. Agra,)

From T. E. Baker, Esq. Surgeon on Snake bites.

F. H. Brett, Esq., on a case of Lithotomy.

W ——'s on a bath senter with a drawing. This shall be lithographed immediately.

Hunter on Hospital practice. 2nd or Queen's Royal Regiment.

On the use of Deuto Ioduret or (Hydiodet) of mercury, by J. Plane, Esq.

On the habits of the Cobra de Capella, by Mr. Guthrie.

On Physico and Metaphysical Science by ditto.

Dr. R. Stuart's account of cases of Lepra.

Dr Ths. M. Munroe's communication. We have particularly noticed his favor.

We would have complied with our friend Dr. Forbes' request, but we had only one complete copy of the pamphlets he required which we were obliged to keep by us. We hope our friends and correspondents will excuse us for not replying to their several communications they will make allowances for our want of time.

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OF

MEDICAL AND PHYSICAL SCIENCE.

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SKETCHES OF THE EDINBURGH MEDICAL PROFESSORS.

By Scotus.

The two Drs. Andrew Duncan.

At the time of which I am now recalling the almost dreaming recollections, these two professors father and son were the living representatives of two ages in medicine. Dr. Duncan, Senior was, as Dr. Gregory said of him, 50 years behind the profession, a necessary consequence of having survived his contemporaries, and of living among a new and more progressing generation without having the energy to keep up in the rapid race which the science had run in the latter years of his long and virtuous life. The theory and institutions of medicine were the branches of the science taught by Dr. Duncan, Senior, and listening to one of his prelections upon these subjects was like unto opening an old volume written in the days of Harvey: you might even take a further flight on fancy's wing and go back to the classical ages of the profession; for you were largely indulged with the theories of Celsus and with able expositions of the immortal aphorisms of Hippocrates. But why should I dwell on the weaknesses, physical and mental, of one who had been in the days of his own generation active, diligent and useful in his vocation. He lived to a green old age, respected in spite of the almost mental imbecility which had come over him; for he was virtuous and good. *Requiescat in pace.* I turn to sketch the son the other professor of this name, Dr. Andrew Duncan, Junior, professor of Materia Medica in the university, an eminent, industrious, and talented man, whose name is known in every country where the light of science reaches: who will envy him that fame when it has led to his early death? I may answer many: but can I say why? Infirm and weak of constitution the incessant and deep study he pursued wore out the corporeal frame.

That the mind, acute and intelligent as it was, is now also mouldered down to dust I am not one of those who believe, yet what is its state? has it the enjoyment of watching the progress of things here below and of feeling the honour that shall be rendered to itself by generations yet to come as one of the first movers in a particular line of scientific discovery?* These are things beyond human ken; yet can the enquiring mind turn from the wish to know and reason upon such mysteries.

As Dr. Mason Good says the time will come when faith shall be made vision and vision certainty. The believer in the materiality of the soul: how I pity him! what motives has he to good actions and how humbling to him the thought that all the emotions and all the glorious deeds and thoughts of man, that the grave sets them at rest for ever except to the living and future generations? To him and to those who have gone before him all the beautiful emanations of the human intellect are as things that never were.

Whence then the wish for posthumous fame,—the longings after an immortality, which, speaking thus, those who acquire it can have nothing to do with.

Let us turn to the material objects of the present world.—It is a cold, gloomy morning in winter, the day-light engaged in single combat with the lamps dimly burning in the Materia Medica class. The implements of the laboratory are arrayed before you with numerous specimens of the articles of the Materia Medica, vegetable, and mineral——dream——(the hour is filling and the scene too) of the days of the alchymists.

The professor comes, he will not dispel the illusion, thin, spare, and care-worn, pale, emaciated, and dried up as if half melted

* I allude to his researches into the proximate principles of medicines.

down by the endeavour to discover the philosopher's stone by the fusion of the metals, an eye burning bright like a gem that fire could not touch. He begins to lecture ; awake and hear the real philosophy taught, which, since Newton first applied it to the physical sciences, has gone on to shed its light upon all nature ! In chemistry and in pharmacy (a branch of chemistry) it has taught us to reduce the matter of which this earth is composed into a few simple states, and to re-unite them into a variety of useful substances.

In the investigation of the properties and functions of animal and vegetable life, though we are yet far far away from it, I agree with Majendie in thinking that " it waits till a genius of the first order arise to discover the laws of the vital force, as Newton made known to us the laws of attraction. The glory of that great mathematician did not consist, as some think, in having discovered attraction, (that cause of action was known before him,) but rather in having told us that attraction acts in the direct ratio of the mass and universally as the square of the distance." Dr. Duncan following the inductive reasoning investigated the properties chemical and physiological of the different articles of the Materia Medica, and no man of his time has perhaps set down more fairly and with less prejudice the result of his own and other men's experience upon these matters.

Learned in all modern languages, he was acquainted with every thing doing on the continent, and we have the result of his personal knowledge and of his deep reading on subjects connected with pharmacy and the Materia Medica in his well known work the Edinburgh Dispensatory.

He was the undoubted discoverer of the proximate principle of the Peruvian Bark, which he called Cinchorine, vide Nicolson's Journal for 1803.

As a physician Dr. Duncan was more of an experimentalist as to the effects of medicines than the acute observer of nature's operations and her aberrations, which constitute disease. Perhaps this fault was more apparent than real, and owing to the natural bent of his mind towards those objects which had so long engaged its unremitting attention.

As a teacher Dr. Duncan was not very engaging ; but to those who could follow him up through a great deal of discursive matter to his real objects, his lectures were of great value.

He enlarged too much upon trifles, not making the proper distinction between the knowledge which was merely curious and that which was really important: you had to winnow the grain from the chaff. I recollect well that he lectured once for three days upon tea, and particularly upon the best way of making it. He very properly too put in the cream last by saying " after all, gentlemen, the real secret of making good tea is to put plenty of tea into the pot," a fact known to old maids as well as to the learned professor.

The Doctor's language and style was simple and undignified, but well suited to his subject ; his delivery was distinct and deliberate.

Dr. Duncan died two or three years ago, as already mentioned. His early death (for he must have died comparatively young) was caused by too intense application to study. He gave clinical lectures every alternate 6 months : these lectures had the fault of his practice—too much leaning to a faith in medicine in the cure of disease. That he was skilled in most branches of the healing art, will not be disputed, however, by those who know that he was Editor, in its palmy days, of the Edinburgh Journal of Medical Science.

I would wish for no better gift from nature than the great and unwearied industry of that man—a better gift than genius even ; for it oftener leads to useful ends. Some will argue that industry is self acquired. I do not think so. I consider it the result of a mental conformation which leads to the anxiety for acquiring knowledge—a property somewhat akin to genius which loves to create. Of the private and domestic character of Dr. Duncan, I know little more than to be able to say that he was amiable and esteemed in all its relations. When I spoke of his early death, I may have induced many erroneously to think that he died ere he had yet surrounded himself with those endearing ties which, while they form the chief solace of life, are yet accompanied by cures and anxieties unknown to the single man. There is no pleasure without pain ; but by enjoying the one moderately we fit ourselves for the endurance of the others. This is the philosophy of life, and Dr. Duncan practised it.

SOME OBSERVATIONS ON THE TOPOGRAPHY, &c. OF DORUNDA IN CHOTA NAGPORE.

By Dr. Dunbar.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—Dorunda, the site of the cantonments of the Ramghur Light Infantry Battalion, is situated in Latitude 23° 22',

Longitude 85° 25'. It is distant nearly 70 miles in a southerly direction from Huzarcebaugh, where a King's Corps has been lately stationed, and is surrounded on almost every side by thick jungle, which towards the south extends with little or no interruption to the sea-coast. In approaching Dorunda from Hazareebaugh three Ghauts, difficult, and at certain seasons almost impassable, are to be crossed.

The Damoodur river flows between the two stations, and numerous mountain streams which swell suddenly after every fall of rain render the communication in the wet season uncertain and sometimes dangerous; no regular roads have hitherto been constructed between Hazareebaugh and and Dorunda, and supplies of every kind are transported on elephants or bullocks, or are carried by the coolies of the country, a strong, and vigorous set of men.

There is, generally speaking, a gradual ascent from Hazareebaugh to Dorunda, so that high as is the table land of the former station, that of the latter I should conceive to possess a still greater elevation.

A stranger on visiting Dorunda, especially if he come from the lower provinces, is not a little struck with the singular appearance of the country. He sees undulating plains stretched out as it were before him, with numerous water courses winding in various directions, and here and there starting almost abruptly from the soil rocky hills of 400 or 500 feet in height, generally of a conical form, some of them richly clothed with vegetation, others more or less naked and bare. Extensive *topes* are scattered over the landscape, in the centre of which one often finds a thriving and populous village with its rude enclosures, adding to the variety of the scene.

The soil around Dorunda is of a varied character, some tracts of land, such as that lying between cantonments and the village of *Chooteea*, being covered with a rich and deep alluvium; while others are of a lighter and more sandy or rocky nature. Those isolated hills which form so remarkable a feature in the landscape, appear to be mostly composed of masses of coarse loose granite, and the same rock appears to form the bed of the different streams, which, rising in the neighbouring heights, find their way to the Suboornreeka. Large beds of *conker* traverse the district in various directions. This forms an excellent and durable material for the roads, and is used in the construction of those now being made in the neighbourhood of Dorunda and Kishenpore. Limestone rock is found in considerable abundance, and I have seen some specimens of good *coal* brought from Bulleah or the Hazareebaugh road, where, it is believed, an ample supply could be obtained. It may be observed, however, that the mineral products of this part of the country have been hitherto but little attended to, yet it is generally believed that the district is not wanting in mineral productions which would reward the search of any patient and zealous enquirer. *Iron* is manufactured in great quantity at a place called *Lollee*, which, indeed, may be said to be the great iron foundery of Chota Nagpore; for it is there that most of the rude iron instruments of the people are prepared. Those hill streams which intersect the country in various directions, are not unfrequently found to contain in their channels quarries of *golden ore*. The political agent S. W. Frontier has had a considerable number of specimens brought to him at different times by the natives of the country. *Diamonds*, I am informed, have occasionally been found, but not nearly in such abundance as at Sumbulpore, where formerly fine and pure ones were procured in the bed of the Mahanuddee.

The vegetable productions of this part of the country do not appear to be very numerous or varied. The Coles of Chota Nagpore, though perhaps they are to be considered a pastoral rather than an agricultural race, do not appear to be much behind their neighbours in regard to the art of cultivation. Large tracts of land, the soil of which is too light and poor for cultivation, afford pasture to the numerous herds of cattle and buffaloes, which constitute a large proportion of the property of this people. Other pieces of land, again, blessed with a richer and heavier soil, yield *rice*, *killaye*, *sirgonga*, *barley*, &c. Considerable strips of ground in the vicinity of the villages are planted with *cotton*, and *potatoes* are successfully cultivated. European vegetables and fruits, as far as they have yet been tried, seem to thrive astonishingly well, and the flavour of some of the latter is scarcely inferior to that of the same fruits in England.

Of domestic animals, cattle abound all over the country. They are of a small stout breed, and make good beasts of burden; a considerable number is annually exported from Chota Nagpore. The cattle in these districts are very frequently attacked by *Mhata*, and the mortality among them is sometimes very great. On the return, in February last, of a Detachment of the Ramghur Battalion, which had been on service in Singboom, the road between Tamar and Boondoo was observed to be literally covered in some places with the half devoured carcasses of cattle which had been cut off by this dreadful pestilence.

Every Cole village swarms with pigs and swine, which form a favourite article of food with the natives.

The same wild animals are found in Chota Nagpore as in other hilly and jungly districts. Tigers, leopards, and bears abound. The former sometimes extend their ravages to the immediate vicinity of the cantonments. The Coles generally go to the jungles on hunting expeditions once or twice a year, when they assemble in large numbers, armed after their own rude fashions; but though a reward is given for every tiger that is produced, they seldom venture to assail this dreaded king of the jungles. The wild buffalo is met with in some parts of the district; but the country around Dorunda being pretty open, he seldom visits our neighbourhood. One would almost be inclined to suppose that there is something in the soil about Dorunda, peculiarly favourable to the propagation of that destructive insect the white ant; no where have I seen it so abundant or so injurious. The ground appears to be absolutely undermined in many places by this restless engineer. The rapidity with which the ant works its way to the chopper of cutcha buildings here is quite remarkable. This it very soon loosens and destroys, so that it is almost quite necessary to renew the chopper of such buildings every 2d or 3d year. At particular seasons, when the ant assumes a winged form, they issue in myriads from every hole or crevice in the walls of the houses, covering chairs, tables, &c. with their dead bodies when their short flight is over.

Near Dorunda, on one of those singular isolated hills which are so common all over the country, stands a fine Hindoo temple erected in honour of the God Juggernauth, and evidently of great antiquity. No certainty exists as to the date of its foundation, and even the name and fame of its founder have been forgotten; from the extent and solidity of the masonry, and the remains of a rude taste in the construction and adornment of the temple, which time has not been able wholly to efface, we may conclude that its founder, whoever he was, must have been no unimportant person; more powerful and more wealthy in all probability than the petty rulers who have succeeded him. The building does not appear to have been designed for religious purposes solely. Its situation, naturally strong, seems to have been improved by art. A thick wall which surrounds the temple is flanked by turrets, which, as well as the wall itself, are pierced with loop-holes in various directions. There can be little doubt that in turbulent times this building formed a secure place of refuge, and a formidable post of defence. The thakoors and other Hindoo proprietors of the soil pay an annual visit to the temple with great pomp and circumstance, and crowds of devotees follow in their train, each bearing in his hand some votive offering to the God; while the Coles, who do not participate in these religious rites, gaze with wonder on a ceremony, the import of which they do not comprehend.

Those climates are generally considered to be the most healthy where cæteris paribus the range of the thermometer during the year varies least. Such are never subject to extreme viscissitudes of heat and cold, two great and prolific sources of disease. The term *equable* can scarcely with propriety be applied to the climate of Chota Nagpore; for not only do the seasons sometimes appear to change their characters, but sudden and remarkable variations of weather are by no means uncommon. The cold season is that which varies least; high cold winds blow almost constantly from the north-west; no dull fogs obscure the atmosphere which to a European constitution feels particularly grateful and invigorating. The smaller pools are sometimes coated with ice, and fires and warm clothing are quite necessary during the whole of the cold season.

It is usual, towards the end of December, or about the beginning of January, to have four or five days of heavy rain with easterly or south-easterly winds.

No two seasons could be more different in their general character than the hot season of 1835, at Dorunda, and that of 1836. In the former year nothing of what is usually called the hot winds was experienced; on the contrary there was a constant succession of variable winds, with thunder and hail storms: a large quantity of rain fell during this period. The air was generally speaking cool, and the thermometer never rose above 90 Fh. in the shade. It was by no means unfrequent to find a pretty hot forenoon succeeded by a cold and tempestous evening. The thermometer has been often observed, on such occasions, to fall 20 or even 25 degrees, in a very short space of time. This year the hot winds from the west have blown regularly and uninterruptedly. Little or no rain fell during the months of March, April, and May; and from the elevation of the country, and the dry and generally rocky nature of the soil, the drought has been considerably felt. Many of the smaller streams which had hitherto afforded plentiful supplies of water were dried up, and even the Suboornreeka, which at most times rolls down a large body of water, became a most diminutive and inconsiderable stream. The heat during the day at this period was occasionally exces-

sive, the thermometer for many successive days standing at noon in the shade 104 Fh. The nights however were always deliciously cool, and you were in some measure recompenced for the miseries attending a hot and oppressive day, by the certainty of enjoying comfortable and cool repose.

During the rainy season the winds at Dorunda are variable, blowing, however, mostly from the east or south-east. Dark masses of clouds obscure the sky, pouring down torrents of rain, the fall of which is often preceded by one or more of these *tofauns* or hurricanes, to which this place seems very liable, and whose fury and violence would be severely felt, were they not of such short duration. The rivers and streams which had been contracted in their channels, now swell, carrying down a large and impetuous body of water; and the communication over the country is sometimes completely suspended for many days.

Dorunda, 20th June, 1836.

P. S.—In my next communication I shall give a short sketch of the effects of the climate on the sepoys of this Battalion, as far as the experience of one year goes.

W. D.

OBSERVATIONS ON INTELLECTUAL AND CORPOREAL ACTION.

SECTION IV.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—I am not inclined to protract these observations; and therefore will say all that occurs to me now, in this last section. Among the corporeal *functions*, which seem to be intimately connected with the mental faculties, I think the nerves are to be ranked highest. It has been, and still is, a matter of dispute, in physiology, whether the nervous system is at all useful to *physical* life. The more common opinion seems to be that it contributes in no way to animal purposes, except in conveying sensations to the soul. Nor do the faculty agree as to the manner in which sensation is conveyed. Some hold that the nerves possess a fluid, which of course must be secreted from the blood, to convey sensation. Others deny the existence of any such vital fluid and suppose that sensation passes to the sensorum, as vibration passes through a wire. However chimerical and extravagant the doctrines of neurology, it is conjectured by some speculators that the nervous system is not essentially concerned in any of the functions, save those which administer to the wants of the mind; that in healthy state its chief office is to maintain the connection between mind and body. It does not appear rational to conjecture that the nerves have no great utility in any *functions*, besides those which interefere directly with mind. For instance, when the spine is injured, how rapidly paralysis may supervene. From these and other phenomena it is probable that the nervous system is highly important to corporeal nature. Here I should be willing to point out the effects of those disorders called *nervous;* but I fear that pathology has prepared as much for this part of my subject, as physiology has done for the other.

Having proceeded thus far in stating nothing but the *darkness* in which our subject is involved, I shall advance upon the smooth ground of probability. I will embrace the more lively opinion that the nerves are tubes filled with the nervous fluid or animal spirits. By taking this position I shall arrive at two conclusions: First, that the state of the blood will materially affect the mind and its functions; Next, that the condition of this fluid will sway the moral feelings and corporeal sensations. Descartes supposed the soul to be seated in the glandula pinealis: whether Descartes fully understood the operations of the cerebral viscera I know not. But there is a degree of plausibility in his supposition which induces me to believe that he did. Glands are employed throughout the human body to separate juices from the blood, and throw them out of general circulation.

If the glandula pinealis secretes the animal spirits from the blood and distributes it into the nervous system for the purpose of sensation, the blood will of course affect the nature of the fluid, and the fluid will affect sensation or sensibility. If it does not possess that high degree of sensibility, it will alter the moral feelings. Aristotle, I believe, observed that men whose blood possess thick fibre are good for strength but not for understanding. If the premises we have laid down be correct, who will deny Aristotle's conclusion? By way of illustration I may observe, that whenever nervous misgivings are felt, it will be clearly perceived that the *circulation* is not in proper movement. Tea which possesses two properties, stimulus and sedative, affects the moral feelings for two reasons. It destroys excitability and lowers circulation. This is not a paradox! for any thing that is only sedative, such as soda water, does not create any commotion in the nervous system, which tea particularly does. An over dose of tea has the special

power to make a *nervous* person serious. Now while there is a proper degree of sensation in the nerves, we may defy all sorts of melancholy. This is all that I can say upon the doctrines of nervous intelligence. Here I shall pause awhile to philosophise a little. Having soared to the zenith of my reasoning powers, I feel my fancies whirling; and, very probably, we are as far from the truth as when we set out, or, what is more possible, the reader is perplexed in the extreme. Whatever he may think of this my humble physico-metaphysical science, he will find that all matters of human learning are thus involved in perplexity; whether we endeavour to fix the chronology of the deluge or weigh the arguments which support the Central Fire System, whether we turn to astronomy or metaphysics, it is doubt. In taking my farewell of my reader, and also my Editor, I can only recommend to their attention this fact, that a man's intellectual powers will altogether depend upon his bodily functions; nor is this an unholy assertion, who can explain the designs of God or entirely develope his work! "We are fearfully and wonderfully made!"

J. GUTHRIE.

Sulkea, June 1836.

ON THE INSTITUTION OF NATIVE HOSPITALS.

BY DR. K. MACKINNON, M. D.

Assistant Surgeon.

To the Editor of the India Journal of Medical and Physical Science.

DEAR SIR,—When, in my last letter on the subject of Native Hospital, I made use of the argument that in the civilized countries of Europe medical charities are supported conjointly by the Government and the public, I ought to have added that whilst in England, these noble institutions are with a few exceptions supported by public endowment, in France again, the Hospitals are chiefly kept up by the Government, for which purpose it levies particular taxes.

I am, indeed, here comparing great things with small, and I need not go farther with the comparison. As regards India it comes to this, that, however desirable it may be to have Hospitals, unless the Government supports them they cannot be got up. The Natives will not yet a while be got to enter into such schemes, and the European public, small as it is, is constantly changing, and could not be depended upon for a regular income, however trifling.* In my former letter, I did not think it necessary to harrow up the feelings by describing some of the cases of disease and wretchedness which it has been my lot to witness, nor shall I do so now; but I shall say without the fear of being contradicted that there are as many objects for this kind of charity in India as in any part of the world, nor is there another country where the means of doing good might be more cheaply secured. For ample accommodation a very cheap building would suffice, food is exceedingly cheap, and attendance is so also.

These are considerations which induce me to hope, that, even in days of retrenchment like the present, a proper representation on the subject would have the effect of inducing the Government to put a definite sum at the disposal of the proper authorities for the purpose of administering to the want of the sick and destitute at the Civil Stations. The small sum of 200 rupees per month, with the necessary medicines would, on an average, I may say, be enough for the object I have in view: this sum, paltry as it may seem, would go a very long way if properly disbursed, to ensure which a committee ought to be formed, who shall regulate the necessary details of expenditure for food, servants, &c. The institutions once in operation, I have no doubt whatever, but that they would be able to extend their objects by receiving assistance from the Native and European communities. They might then distribute medicine to out door patients. And on the breaking out of epidemics much might be done in this way. When I speak of 200 rupees per month as a probable adequate sum for establishing a Native Hospital, I confine my views to the treatment of cases of great urgency, and chiefly to surgical cases. I have omitted to mention one circumstance which makes it almost obligatory on Government to do something.

It is necessary to the preserving of the laws and to the punishment of offenders to bring wounded men into the station from immense distances to the great aggravation of their injuries. If not committed to jail, they consider it a disgrace going to the jail Hospital, and will never do so of their own accord; surely the Government is bound to afford them some accommodation. I know that they sometimes die for want of it.

Since writing the above, I have had the pleasure to peruse a letter relevant to the

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* I once made an attempt to raise funds for a Native Hospital among the European and Native population of Tirhoot, but without success.

subject upon which I am writing, addressed by the Governor General to my friend Dr. Martin. His Lordship impresses us with a thorough conviction of his generous anxiety to promote such useful charities; and, as far as relates to Calcutta, it is impossible but to admit the justice of his remarks, with respect to the obligation there is on the public itself to contribute to so desirable an object.

But even in Calcutta the press has unanimously seen the impossibility of moving the native public to action, and the hardship of making the European public bear all the burthen is self evident.

The suggestion of taxing the community for such a purpose appears to me feasible and just, especially if the means so acquired be applied to general ends for improving the public health as well as to establishing medical charities. In the Mofussil, I fear, such projects will not be thought advisable. In my former letter I hinted to you that there was a large sum lying in the treasury of this district, which has been collected from Court fines and ferries. It has been the avowed object of Government to apply such monies to the repairing of roads and other public improvements, but I have seen little of it so applied, and I am very sure that part of it might be more advantageously appropriated to the purpose of establishing hospitals.

Let me conclude, Sir, by expressing my earnest hope that the Government, seeing into the necessity of adopting the measure which I have advocated, (with more confidence in the justice of my cause than in my own ability to put it strongly forward) may call upon the Civil authorities of the stations of the Mofussil to state,

1st.—Whether such institutions, if established, would be the means of doing much good?

2nd.—What local pecuniary resources could be applied to the object in view?

3rd.—What monthly sum would be adequate?

4th.—If established by Government, would not these charities be esteemed a great boon by the Native population, and would they not feel proportionately grateful?

5th.—If once put into effective operation by the authority of Government and carried on with due regard to the prejudices of caste, &c. would not the institutions be likely to receive support from the European and Native population, from the latter especially. It is time, Sir, that I should cease to occupy valuable space in your journal; but I must mention that my object in making the question a general and public one, rather than being satisfied with making a direct effort for this station alone, has been the conviction, I ought to say, the hope I feel, that my medical brethren will, acting in concert with the Civil authorities, urge their question upon the consideration of Government, not from motives of private advantage but as a public object of much consequence.

I have forborne to use one argument which might well have been advanced in your pages—the great advantage which would accrue to medical science by our having such opportunities of watching, treating, and recording the diseases of the Natives of India.

Tirhoot, 26th June, 1836.

P. S.—I am aware of the existence of Native hospitals in some of the largest cities of the interior, to all of which the Government in some degree contribute. It will be found on enquiry that these institutions dispense a great share of good, and that they have in some cases promoted the ends of science. At Benares, for example, was it not the existence of an hospital which gave the late Dr. Burnard, (whose death is a loss to the profession in India) so many opportunities of operating for stone in the bladder?

K. M.

HOSPITAL REPORTS.

HOSPITAL PRACTICE,

2ND OR QUEEN'S ROYAL REGIMENT,

By R. H. S. Hunter, Esq.

DYSENTERY (COLITIS).

To the Editor of the India Journal of Medical and Physical Science.

Sir,—Of this, which was confined to the period of the year before mentioned, we had in all (strictly speaking) about sixteen cases, and of these, two terminated fatally. In neither was the mouth properly affected with mercury. Indeed, in one of them we were afraid to push it, owing to the dark congested and rather ulcerated state of the gums on admission. The other, who held out a very long time, might, I think, have recovered, had we not desponded, too soon. Besides other stimulants, he had been taking opium in considerable quantities, and for the last month seemed scarcely to be getting worse;

but as he ultimately took a disgust at the medicine, and asked to have it omitted, we complicd; thinking the case hopeless at any rate, and immediately after this he sank. We were surprised at thc small extent of organic lesion presented after death. But as we have nothing ncw to offer on this disease, perhaps it will be as well to give an abstract of the case, which will at the same time illustrate our treatment.

H. Taylor, æt. 31,—Spare habit. Had been in Hospital the greater part of June and July, with opthalmia and cloudness of right cornea, for which his mouth had been affected with mercury. On the 18th July, his vision having been perfectly restored, he was sent to the convalescent ward, and on the 5th of August, to his duty. August 7th re-admitted. Complains of pain and tenderness in the umbilical region with frequent calls to stool, tormina, and tenesmus, which he reports to have commenced immediately after he left the Hospital two days ago. Sk. cool,—T. white—Ap. bad,—motions, scanty, bloody, and slimy. P. 68, moderate.—Abd., full and unnaturally resonant. Hirud. xlviii. Ab. et Fom. calid. Cal. gri. c. opio. gr. ij. stat.—Meridie Ol. Ricin. ʒvi.—Vesp. Hirud. xxiv. Abd. Contr. Fom. Repr. Cal. and op. 8th. Eight motions, pitchy and tenacious—P. 72, moderate. Complains of pain at navel and in hypogastrium before going to stool. Hirud. xii. umbilic. Rept. Fom. et Ol. Ricin. Vesp. Repr. Cal. and op. 9th. Motions in the night, frequent, consistent and mixed with blood and slime. Fulness diminished, tenderness gone—sk. cool.—P. 76, small.—Ol. Ricin. ter in die ʒiii—Vesp. Repr. Cal. and op. 10th. Abdominal tenderness and fulness returned. Rejects the oil, motions green, yellow, and pitchy.—P. 84.—Hirud. viii. abd. et Fom. Sulph. magnes. ter in die ʒiii.—Vesp.—Repr. Cal. and op. 12th. Mouth rather sore. In other respects, says, he feels quite well. Cont. Sulph. magnes. 13th. Five loose, light-coloured motions, mouth rather tender—sk. cool, T. furred, Ap. good, P. 76, small. Pil. Hyd. et Pulv. Rhei. a a gr. iij. ter in die. Sulph. magnes. ʒiv. g. g. mane. 14th. One scanty, bloody, and slimy motion in the night. P. 76, small. Cal. gr. xx. c. opio. gr. ij. stat. Contr. Sulph. mag. 15th. Five loose, light coloured motions without blood or slime, mouth not sore. P. 76, Repr. Cal. and op. 16th. Six tolerably consistent motions in the night, with a little bloody slime at top. Ap. good, P. 88, moderate, Ol. Ricin. ter in die ʒiii. 17th. Motions again frequent, consistent, and mixed with dark blood, mouth not sore. Apyrexia, Ol. Ricin. ʒii. c. Pulv. Dover gr. v. ter in die.—Vesp. Repr. Cal. and op. Emplast, Lyttæ Iliac, dext. 18th. Frequent tolerably consistent motions, mixed with dark blood, sk. cool, T. white, Ap. good, U. free, P. 104, small, R. Decoct. Com. lbss.—acet. Plumb. gr. x. Tinct. opii. gtt. xl. fr. encma, nocteque mane repetend Ung. Hyd. in axillas ʒi. in die—Contr. Ol. Omit. Cal. and op.

The disease having now got into the chronic stage, it will be sufficient to extract a report here and there to illustrate its course. 24th. Five fœtid frothy motions in the night, passed with tenesmus, surface cold and damp. Features shrunk. T. white. thirst urgent. Contr. Pil. Hyd. et Pulv. Rhei. ter in die. Ol. Ricin. ʒii. ʒiv. g. g. mane. Contr. Polr. spirit, C. Dilut. *Sept.* 2. Three loose yeasty evacuations without blood or tenesmus ; sk. cool, T. clean, Ap. improving, thirst—P. 92, small, soreness, tension, and tympanitic resonance of hypogastrium. *Oct.* 2. Feels very well he says—B, not moved, sk. cool, T. clean, Ap. tolerable, P. 100, small. Some tympanitic distension of abd. Aspect improving, Augeatur op. ad. gr. iiss. et Sulph. Ferri. ad. gr. i. 4ta. g. g. h. Vin. Rub. ad. ʒii. ter in die. Contr. Pol. Spt. com. etiam Ol. Ricin. p. v. n. 11th. One dirty, watery, fœtid evacuation in the night. Extremities cold and damp. Body warm and perspiring. Aspect not improving. P. 120, Sulph. Quinin. gr. ij. Pil. Hyd. gr. i. opii. gr. iij. 4ta. g. g. h. Vin. Rub. ter in die ʒ iij. Pol. Sp. Dilut, ad. ʒv. spt. in die. Contr. Ol. Ricin. 13th. Feels very well, aspect somewhat improved. Extremities warm, P. 108, small. 14th. Loathes the pills. Aspect less promising. P. 120, small, Tinct. opii. ʒiss. 4ta. g. g. h. Omr. Pil. Contr. Alia. 15th. Low delirium all night. Extremities cold, P. 130, very small, sinking. Died at noon, Autopsy! 5 P. M. Colon contracted except near cæcal extremity where it was considerably distended and its parietes thickened—mucous membrane at some part was scattered over with small superficial ulcers and red prominences but none of any great extent. Liver perhaps more lacerable than usual. No other morbid appearance.

RHEUMATISM.

Of this we had in all during the cold weather about twenty cases, some of them in their course complicated with Hernia, Humoralis and Hydrocele, some with Sclerotitis and Iritis, and some with Pericarditis or Cerditis. Besides, we had a number of admissions with chronic pains, but which more properly belonged to the dispepsia. These, of course, are altogether excluded from the report. The symptoms were acute pains in the larger joints, arms, legs, and

sometimes in the hands, sometimes with swellings, but more frequently not; sometimes with effusion into the bursæ, and more or less pyrexia, accompanied occasionally with cold partial sweats, particularly about the forehead. The blood we may say in all presented more or less of the buffy coat. The most successful treatment consisted in moderate bleedings and purgations, followed by calomel, antimony, and opium, till the mouth became sore. The latter was almost a specific, so much so that the old rheumatic patients themselves say they know they will never get well, till their mouth becomes sore. During convalescence, Decoct. cinchon. with colcichum, tinct. Opii. c. Dover's powders, &c. But to keep to our order, we shall illustrate by cases.

No 1.—W. E. æt. 37.—Admitted 29th December, 1834. Complains of pains in his shoulders, wrists, and fingers, with some swelling of latter, which he attributes to cold. Has also betwixt extensor tendons of both hands two or three small elastic tumors, evidently containing a thin fluid. Constitution rather broken by intemperance, formerly very healthy. Aspect stiff. Sk. warm. T. moist. Ap. good. B. regular. P. 92, soft. This is the third time in Hospital with rheumatism, within the last two months—Cal. gr. iij. Pulv. Ant. gr. x. Opii. gr. ss. ter in die. Bal. Calid, 98, h. s et Pulv. Dover gr. xx. 31st. Pains much relieved. Swellings reduced. B. free. P. 92 soft. Haust. Diaph. ter in die. Contr. alia. 1835, January 1st. Perspired freely in the night. Mouth very sore. Pains much relieved. Swellings gone. P. 90. Contr. Haust. et. Pulv. Dover. Omr. alia. 2d. P. 84. Contr. 4th. Still some pains in the night. Skin cool. T. clean. B. open. P. 86, moderate. Acet. colchic. gtt. xx. Ol. Cajaput. gtt. iv. Decoct. cinchon. ℥ ii. ter in die. Balm. Calid. 981 tertia. gg. Vespere. Contr. Pulv. Dover. L. C. 18th. Pains nearly all gone. Complains only of debility. P. 76. Contr. 13th. Has been much griped in the night. Mouth nearly well. Apyrexia. Magnes. Carb. gr. xx. Pulv. Rhie. gr. v. Tinct opii. gr. x. Aq. Menth. ℥ ii. m. s. s. Omit. Haust. 14th. Bowels moved three times. No griping. Apyrexia. Contr. Bal. et Pulv. Dover. 19th. Convalescent. Duty.

No 2.—J. K. æt. 30. Stout muscular habit. In Hospital from the 23d Nov. 1834 to 4th January 1835, with rheumatism, for which he was treated in much the same way as last patient, with one moderate bleeding on admission in addition.

February, 16th 1835. Readmitted. Complains of dyspnœa and slight dry cough, particularly on motion: Acute pain and beating in left breast, which he says commenced a fortnight ago, by pain under left false ribs. Aspect stiff. Skin warm. T. moist. Ap. tolerable. B. regular. P. 84, small. Resp. 36, short. Heart's action inordinate, and its sounds audible as far as left subscapular region. Resp. unusually clear and sharp particularly in right chest anteriorly. No rale. No deficiency of resonance. V. S. ad ℥ xx. (qs.) Calomel gr. x. Tart. Ant. gr. i. Pulv. Jalap. C. gr. x. M. S. S. Solut. Tartarizat. 2d. g. g. h.g ℥ ii. Vesp; Hirud. xii. p. d. 17th. Medicine operated freely, blood sizy. Pain continues. Skin cool. P. 88, small. Resp. 36. Auscultation, same result as yesterday. V. S. ad. ℥xii. Contr. Solut. Tart. Vesp. Bal. Calid. 94°, et. Pulv. Dover gr. xx. 18th. Blood rather sizy. Pain in breast more severe; that under false ribs less so. Skin cool. T. clean. Ap. tolerable. B. free. P. 84, very small. Resp. 40.1 Resp. clear in subclavian regions; observe elsewhere. No deficiency of resonance. No rale. Cal. gr. iij. Tart. ant. gr. ss. Opii. gr.; in 3ia. g. g. h. repeat cl. 19th. Pain much relieved. Resp. 32, calm. P. 76, moderate. *Tympanitic* resonance on left side, as high as 6th cartilage; Good over all the chest. Contr. 20th. Pain nearly gone. P. 80. Resp. 26. Contr. 22nd. Can now breathe with perfect freedom, but complains of pains in his shoulders, elbows, and left knee. Skin cool. T. clean. Ap. good. B. regular. P. 72, moderate.

The cardiac affection having now terminated by metastasis to the joints, the case has become similar to the last. He underwent a like treatment, and was a convalescent on the 26th March. Re-admitted 16th April with sclerotitis and iritis. Again a convalescent 6th May. Vision perfect. Re-admitted 16th July with cardiac symptoms; and in short of the one or other he has seldom since been free. The case will probably terminate in organic change of the heart ultimately, but as this report has already gone to an enormous length, we must bring it to a conclusion by referring to the January number of 1836, of the India Journal of Medical and Physical Science for what we would have said in catarrh and bronchitis, and for cardiac disease, to the several papers already on that subject.

Died from 1*st January to* 31*st December,* 1835.

DISEASES.	No.	REMARKS.
Febris Remittens.	2	
Gastro Enteritis.	1	
Dysenterea Acuta.....	1	
,, Chron..... ..	1	
Phthysis Pulmon.	2	One of these a few days after his arrival from England.
Cachexia.....	2	One visceral with diseased testicles and the other with enlarged joints.
Apoplexy.....	1	
Aneurism (Aorta.)	2	
Uncertain.	4	Two on the passage home (Invalids), and two on the passage out (Recruits).

Invalids, 31*st December,* 1835.

Asthma.	3	From bronchitis chron. &c.
Dyspnœa.....	4	From dilitation of bronchi, pulmonary emply rem, &c.
Pleuritis Chron.	1	Right side.
Pulmonary Apoplexy.. ..	1	Upper lobe of left lung.
Cardiac Disease..	1	Hypertrophy with dilitation, dilitation of aorta, and (morbid state of *aorta*) the latter a subsequent part of diagnosis.
Cachexia.....	3	Ulcers, erthyma, &c.
	1	Enlarged liver, great emaciation, &c.
	1	Chronic pains &c.
	1	Age, and long service in East and West Indies.
	1	Chronic pulmonary catarrh of the whole of left lung.
	1	Uncertain.

ON SNAKE BITES.

By Wm. G. Rose, Esq.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—I do not know whether you receive communications from unprofessional people or not, but if you do, you may perhaps deem the following case worthy of a space in the columns of your valuable journal.

On the evening of the 18th August last, a little after sunset, a Goalla came to me in breathless haste and told me that his wife had been bitten by a snake, and asked for medicine. I told him to bring his wife to me immediately, and that I could give her medicine: he replied that she could not be brought, as she was lying senseless upon the ground; upon which I hastened to the spot in the Goalparrah immediately, adjoining this factory, taking along with me a bottle of the spirits of hartshorn and a wine-glass. On reaching the place, I found the woman lying upon the ground to all appearances dead; she had no pulse, and her body was perfectly cold with the exception of her forehead and breast, which were a little warm. I ordered her to be lifted up, which her husband accordingly did, and she was supported in a sitting posture. I saw then that the vital spark was not quite extinct, and I proceeded to give her 40 drops of hartshorn in a wine-glassful of water. On pouring out the medicine, some of the bystanders, of whom there must have been 30 or 40, exclaimed "what will be the use of medicine to her, now there is nothing of her left," which was no sooner said than we found that we could not open the poor woman's mouth to give her the medicine, which, indeed, almost convinced myself of the truth of the saying. I was unable after repeated attempts to open her mouth myself, her teeth being clenched together; some of the people standing by volunteered to assist me, and we at last succeeded in getting her mouth partly opened: the medicine was then given, about one half of it found its way down her throat, and the other half was lost. I immediately repeated the dose, and we

succeeded in getting it all down. I gave her, in about 10 minutes more, another dose of 30 drops; upon this dose being given, very distinct signs of life began to appear. I again in 10 minutes gave her 25 drops more: upon this being taken, she opened her eyes to the amazement of us all. I then evidently saw that the medicine had a good effect, and I persevered in giving her small doses at intervals for 3½ hours; in 3 hours she could speak, and by this time her body got gradually warm, with the exception of her right side, which was only warm down to the knee, and from the knee downward, even then perfectly cold; the parts cold were quite dead to pain: in half an hour more, however, her right side had gained its natural warmth. She was bit on the right foot, and hartshorn was also repeatedly applied to the wound.

The woman was quite well the next morning, only excessively weak from the dreadful perspiration the night before, which was profuse during the whole time of taking the medicine. I found that she had taken altogether close upon a wine-glassful of hartshorn; she complained also in the morning of a burning pain in the stomach, for which I gave her a little castor oil, which completely relieved her of this pain. The woman is about 28 years of age, and the mother of 3 or 4 children, and now alive and well.

I do not know by what description of snake she was bit; but it is evident from the symptoms that it must have been one of the most venomous kind: nor could I ascertain how long she had been bitten before I saw her; but I should say from the enquiries I made, about an hour, or an hour and a quarter, all their native incantations had been used; and it was only when they saw death approaching that they came to me.

I saw a letter from Dr. Tytler, in the *Calcutta Journal* several years ago, relating a case where he successfully treated the bite of a snake with hartshorn; and I have ever since watched an opportunity of trying the experiment, but never had one before. I was determined, in this case, to give it a fair trial, more particularly as I had been informed by the Rev. Mr. Carey of Cutwa, that he had in 2 cases out of 3 used hartshorn successfully for the bite of a snake. Of the case that failed, he believes, that it was not given in sufficient quantity.

The case of this woman astonished the natives, and indeed myself. The people of the neighbourhood declared that she had been born again.

I have been prevented publishing this case before from a variety of causes. I was for some time undecided whether I should send it to you or to the Hurkaru for publication, being desirous that it should come under the notice of people who live in the mofussil as much as possible; for I am convinced, from what I formerly heard from Mr. Carey, and from what I have since myself seen in this case, that hartshorn is a *specific* for the bite of the most venomous snake. I am urged more particularly to the publication of the case now from having been turned out of bed at 3 o'clock this morning by a Goalla, from the same Goalparrah, who came to me for medicine, telling me that the "Gooroo" of a fellow Goalla had been bit by a snake. I told him to bring the Gooroo to me; he replied he could not be brought, when I repaired with all haste to the spot, taking with me my old vial of hartshorn and wine-glass. On reaching the place I found a fine-looking Brahman lying upon the ground, with a native rubbing him and using the customary incantations, but I was too late. The vital spark had gone, and there was no remains of life left, the poor man was bitten on the right shoulder whilst asleep; he had come there only the day before to pay his periodical visit to his pupil. On examining the place I found that the snake had its bile there, so that we may yet get hold of it, which will be however but poor satisfaction. This happened within a few yards of the place where the woman was bitten August last, so that the Goalparrah would appear to be rather a famed place for snakes.

Ramnaghur Factory via Coolbariah, June 20, 1836.

LODGEMENT OF NUMEROUS LIVE MAGGOTS WITHIN THE CAVITY OF THE NOSE AND SLOUGHING OF THE PALATE, &c.

By F. E. Dempster, Esq.
Surgeon, 4th Battalion, Artillery.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—I beg to offer for publication in your Journal the following account of the lodgement of numerous live maggots within the cavity of the nose of a European soldier, accompanied by sloughing of the soft palate. The case, you will perceive, is not of very recent date; but this has only enabled me the more completely to fill up the subsequent history of the individual.

That after death "worms shall destroy the body" is our common sentence, and religion can teach men to meet it with hope and resignation. All, however, have an

instinctive repugnance, too curiously to pry into the mysteries of the charnel-house; and shuddering humanity shrinks to contemplate the actual process going on. How much more horrible is it then to know, that the *living* body is not always secure against the attacks of these disgusting insects; and that men have been "eaten to death by maggots." *

The following case, although happily not terminating fatally, is an example of this nature. It appears to me to be invested with a painful interest, and as such, may be considered worthy of a place in your very useful Journal.

Michael Dalton, Private, European invalids, stationed at Buxar, aged 22 years, a muscular and active man with light brown hair and a clear healthy complexion, not addicted to drinking, was invalided in November, 1825, having entirely lost the sight of the right eye, from an acute attack of ophthalmia.

On the 19th of February, 1830, he discharged an overloaded musket, the recoil of which stunned him so severely, that he was obliged to be carried to his barracks by his comrades. Next day the right shoulder and neighbouring muscles are described to have been much bruised and extremely stiff and painful. He applied fomentations and frictions, and gradually recovered the use of his arm. He now began to complain of pain of the right side of the cranium extending down the face and neck, which, at last, became so intolerable as to render him unable to perform any duty, and he was forced to apply for medical aid, 15 days after the receipt of the original injury. On admission into Hospital no external marks of injury or inflammation were perceptible; the pain of the head, face and neck, was severe and unremitting, but chiefly referred to the right side of the face. He was freely purged, kept on low diet, and had frequent applications of leeches to the parts affected; but experienced little relief from his sufferings. A blister behind the ear was the first remedy, from which he derived decided benefit. After some days he complained of sore throat and difficult deglutition. On examination, the palate, uvula, and tonsils were found inflamed and much swollen. Two days after the accession of these symptoms, the integuments of the palate assumed a livid appearance, the breath became unusually fetid, and he had a slight bleeding from the nose. Next morning the palate was distinctly gangrenous, the breath more offensive, the bleeding from the nose increased, and a single large live maggot dropped from the nostril. By evening, a large slough in the centre of the palate had completely separated, and exposed to view a *moving mass of living maggots*. About 30 were easily seized with a pair of dressing forceps and withdrawn.

Oil of turpentine was then applied to the parts, with excellent effect. Wherever a maggot showed itself an application of the turpentine immediately caused it to let go its hold, and drop out. A small piece of sponge was then tied to the end of a long bent silver probe, and being first saturated with turpentine, was passed through the nostrils behind the palate, and moved backwards and forwards along the whole passage. Each time this was done, maggots in incredible numbers fell from the nose and mouth. No language can describe the horrible putrid stench that came from the patient's body at this time. The turpentine was continued to be applied to the parts for several days. The number of maggots gradually diminished, and at last entirely ceased; the ulcer in the palate put on a healthy aspect, and the horrible odour disappeared.

The constitutional treatment consisted of generous diet, bark, opium, &c.

At this stage of the disease, that is, when the patient's recovery was considerably advanced, three small boils appeared on the recently healed surface of the blister behind the ear. The largest of the three was the first to open: it contained in its centre *a single living maggot*, something more than half an inch in length. The other two also opened by spontaneous ulceration; but instead of a single maggot, they each contained *a little knot of minute ones, all alive.* The cavities of these last tumors were black; and looked as if they had been burnt with gunpowder. They all healed kindly.

The patient's recovery was now rapid, and he was discharged from Hospital as fit for duty in the course of a month after his admission; but he spoke in a snuffling indistinct tone, from the destruction of a part of the soft palate. At the end of 6 months, the lost portion of the palate was almost entirely reproduced, and he recovered the power of natural and distinct articulation.

It is not the least singular part of this very singular case, that, in the month of March, 1831, the same train of symptoms recurred without any assignable cause, and ran a similar, but less severe course. The palate again sloughed, and again exposed live maggots; the nose bled, and the horrible fetor of the breath returned. The treatment, found so effectual in the first instance, was again resorted to with equal success. The

* See Smith's Forensic Medicine.

maggots discharged during the first attack were not acurratcly numbered; but they must have exceeded 300. On the second occasion, they were ascertained to amount to 172.

I much regret I did not preserve a specimen of the maggots, but I have not the least doubt that they were the larvæ of the musca carnaria, or blue flesh fly. It was not until after the patient's recovery, that I minutely questioned him whether he had ever slept near the carcass of any dead animal, or in such a situation as to be exposed to the attack of flies. He assured me he had no recollection of ever having slept out of "his own clean bed," but stated, that, during both attacks, he had been much teazed with *numerous large blue flies, buzzing about his head and face*, and that they became so troublesome, that he was obliged to ask one of his comrades to beat them off while he slept.

So complete was this man's recovery, and so sound his constitution, that he was afterwards restored to the effective branch of the service, and has ever since served as a soldier in the European Regiment: he is now at Agra. I sent for him the other day to my house; he tells me he is seldom in Hospital and has lately renewed his period of service, having been declared fit for further field duty. He has had no return of the horrible complaint from which he suffered at Buxar; but says he is subject to severe head-aches, and "that a single glass of liquor makes him mad." A small depression is still visible in the centre of the palate, but his articulation is perfect. He has so much horror at the recollection of his former attacks, that he declares he has never mentioned the subject to his most intimate comrades.

Although many authentic instances of maggots infesting the cavities of the living human body are on record, I have reason to believe they are happily sufficiently rare, to be still matters of curiosity. The subject is mentioned by J. Gordon, Smith, Paris, and Bateman, and still more fully by the author of the article "Insects" in Rees's Cyclopædia; but they nearly all refer to the same examples of the disease. Modern systematic medical writers are, I believe, mostly silent on the subject; with the exception of Mason Good, who relates numerous instances of the larvæ of a variety of insects finding their way into the human stomach and intestines; but such cases differ much from the one now under discussion, in which maggots were found in the act of devouring putrid portions of the living body. Under the head "Malis Æstri" he makes the following more distinct mention of the disease in question, viz. "We sometimes, however, and in the west Indies not unfrequently, find the eggs of this insect (the gad-fly) deposited in the interior membrane of the nostrils, accidentally inhaled with the air, or lodged by a sudden ascent of the insect itself. Mr. Kilgours, of Jamaica, gives a striking example of this, though he does not indicate the insect. The patient was reduced almost to madness before the appearance of a single larva denoted the real nature of the disease. The cure was effected by an injection of tobacco decoction; 200 were discharged in ten days."

I am inclined to doubt if, in this case, the larvæ were those of the gad-fly, the appearance of which is too striking not to have received a more particular description. I rather conjecture that this case was precisely similar to the one I have related above; as also to those recorded by Dr. Lempriere, and declared by him to be not uncommon in the West Indies. The larvæ of the musca carnaria finds a convenient nidus in putrid animal matter of any kind and many situations; but those of the æstri appear to be more select, and are rarely found except in certain situations.

Morghani in book 1st, on Diseases of the Head, states that worms may find a nidus in the frontal sinusses, and cavity of the nose; and justly concludes, that, although found in such situations, they do not come from any putrescent matter, nor are generated in the cavity of the head; but are the offspring of a fly whose eggs are carried from without into the recesses of the nose. He afterwards quotes from Boerhaave the case of a girl cured by him, "whose pituitory sinusses were all full of worms."

Notwithstanding the light that natural history has thrown on this disease, there is still a mystery about it, which I do not profess to be able completely to clear up. That the larvæ of flies may be deposited on the surface of open filthy sores, is matter of common observation.

That one or two ova may accidentally be drawn up into such open passages as the nostrils, is also conceivable; but how shall we account for *hundreds* finding their way behind the palate of one individual and of one only? or explain, why this should happen twice within 13 months to the same person? If the road be supposed easy and accessible, why are such cases so rare? if difficult, how came the maggots to enter Dalton's nose in such numbers? How came they to be enclosed in the 3 boils behind the ear? Was the presence of the larvæ the cause, or only the consequence of the disease?

It is possible that both these last suppositions may be in part true. I can imagine that one or more larvæ were accidentally drawn up into the nose of this patient; that their presence caused acute pain and inflammation ending in mortification (for it is known that the presence of maggots accelerates the putrescence of animal matter), that the odour of the gangrenous parts attracted numerous flies of the same tribe, which deposited their eggs round the nose and mouth of the patient; and that the larvæ, as soon as called into active existence (and this takes place with surprising rapidity under favourable circumstances), immediately found their way to the gangrenous parts, where they were to find their food, and so produced the whole train of symptoms.

This is the only explanation I can offer, but whether or not it be the true one, I must leave to the decision of yourself and numerous readers.

Agra, 11th June, 1836.

GENERAL HOSPITAL.

BRIEF STATEMENT OF THE EPIDEMIC PREVAILING IN CALCUTTA DURING JUNE, JULY, AND AUGUST, 1836.

By W. Raleigh, Esq.

However mild in character, and harmless in result, it must be a matter of interest, and probably of importance, that record should be made of any peculiar form of disease, which, from circumstances either of locality or climate becomes of such prevalence as to constitute an epidemic: I shall therefore make no apology for soliciting a column in the next number of your journal, in brief notice of the eruptive fever which has during the past month been so general in its visits on the inhabitants of Calcutta.

The preceding cold season had been more than usually salubrious, but its career was rapid, and as early as the commencement of March the weather became sultry, and at times oppressive. April, May, and June were exceedingly warm, and accompanied by unusual drought, the periodical north-westers were of rare occurrence, and it was not until the end of the latter month, that the rains set in. Notwithstanding this deviation from the natural course of the seasons, the inhabitants of the presidency continued healthy, and excepting hooping cough, measles, and chicken pox, generally common among children at the spring season, no particular complaint appeared to predominate.

The epidemic made its appearance about the middle of June, and, although not confining its attack to any particular habit or age, was more prevalent amongst the young, and robust. In character it much resembled "Scarlatina Mitis," and was commonly exempt from inflammatory affection of the fauces: the disease was very general through July, after which period it gradually became more rare, and was nearly extinct by the middle or end of August. It came on with the usual symptoms of simple inflammatory fever, such as chilliness, langour, aching of the head, loins, and lower extremities, prostration of strength, hot skin, sometimes dry, at others moist, flushed, and swollen face, redness and dryness of the eyes, thirst, white thickly coated tongue, nausea, sometimes vomiting, usually costiveness, but in some cases relaxed state of bowels, and high coloured urine. About the second day a scarlet efflorescence was observed on the face, chest, hands, and feet, which did not mitigate the febrile symptoms. This eruption communicated a rough or elevated sensation when the hand was passed over it during the first two days. About the third day of the eruption, the scarlet colour began to decline, and the cuticle to become more smooth, and by the fifth from the commencement of its appearance, the eruption had nearly or entirely disappeared, together with the febrile symptoms, the cuticle in most instances subsequently peeling off the hands and feet, the patient continuing weakly for a few more days.*

The treatment pursued by myself consisted in emetics, purgatives, antimonials, quietude, and abstinence. I saw no case requiring general bleeding, and only a few in which leeches to the temples were called for. All the patients recovered, the disease did not appear to be contagious.

General Hospital, August 25, 1836.

CASES OF RHEUMATISM,

SUCCESSFULLY TREATED BY IODINE.

By Dr. Duncan Stewart.

4th April, 1836.—Hector Urquhart, æt. 34, a stout robust man, a seaman, has been ill

* Note.—This may be considered as the course which the phenomena of the disease followed in the generality of cases, but the commencement of the eruptial stage was by no means regular; in many cases it did not shew itself until the fourth or fifth day of fever, and in others not until the febrile symptoms had nearly, or completely subsided.

W. R.

for three weeks, suffering violent pains all over the thorax and abdomen. These are nearly constant, and so acute that the slightest touch, the smallest motion or pressure on any part causes him to scream aloud. The abdomen is distended, and at the epigastre there is enormous and defined tumefaction elevating the edge of the ribs and pressing up into the thorax so as to resemble a large abscess, and greatly impede respiration in the horizontal posture; the cartilaginous ends of the clavicle, and ribs much swollen and painful. With all this, he is cheerful, has a cool moist skin, and not very foul tongue. The bowels are either very costive or greatly relaxed, and have been in this state for some months. The pulse at this moment is quick and sharp.

V. S. ℥ xx.

Enema Domestic, Magnes.—stat.

R. Calomel, gr. x.

Opii. gr. i.

Colocynth, gr. xv.

Ol. Carui. gtt. iij.—h. s. s.

5th April.—Blood cupped and buffy, was but little relieved by the enema or medicines. B. confined.

Hirudines xviij. epigastro.

R. Pulv. Jalap. c. ℈iv.

Vin. Colchici, ʒss.

Mist. Camphor, ʒi.—stat.

R. Calomel, gr. vi.

Pulv. Jacror gr. iv.

Opii. gr. i.—h. s. s.

6th.—Had several pulpy dark and offensive stools, scybalous, distension of colon rather encreased, and tenderness general all along that bowel. P. soft and tranquil, T. moist and cleaner.

R. Ol. Ricini.

Ol. Terebinth á ℥ i.

Apply a large mustard sinapism over the belly. Repeat the pills to-night.

7th.—Copious thin yellow mucous stools. No pyrexia. The pains of intercostal muscles very acute; distension and tumor of abdomen continue.

R. Calomel, gr. iij.

Antimon. Tart. gr. ¼.

Ol. Croton, gtt. ¼.

Extr. Colocynth, gr. vi.

2 pills.

To be taken every three hours.

8th.—Copious thin yellow acid discharges, pains and distension unrelieved.

R. Hydriodat. potass. gr. x.

Vin. Colchici, gtt. xxx.

Mist. Camphor. ℥ j.

To be taken three times, and two of the pills at bed time as yesterday.

9th.—The fulness and general tenderness much the same; but the cartilaginous ribs, and their points of union with the sternum bear pressure and are relieved by the hot hand. Bowels free; skin moist.

R. Ol. Croton, gtt. i.

Extract Colocynth, ℈i.—in pil. iv.

One of these with the draught as yesterday to be taken every six hours.

10th.—Feels inexpressible relief from pain. Bowels act freely.—Continue.

11th.—The thickened cartilages and joints perceptibly smaller; the epigastre reduced nearly to its proper slope and level: all the muscular pains abated.—Continue.

12th, 13th, 14th.—Continued to improve; abdomen is now flat and soft.

13th.—Got wet yesterday, and suffers to-day from rheumatic pains at epigastre, with flatulence.

R. P. Jalap. c. ℈iv.

Vin. Colchici. ʒss.

Mist. Camphoræ, ℥ i.—stat.

Repeat the draught of Iodine &c. twice to-day.

16th.—No more of the hyd. of potass in store.

R. Magnesiæ, ℈i.

Vin. Colchici, ʒss.

Mist. Camphoræ, ℥ i.

Three times to day; 2 laxative pills at night.

19th.—Discharged quite well.

6th.—T. D. V. private, sapper and miner, æt. 20, recently arrived, a thin pale complexioned youth, has acute rheumatic swelling of both knees, ancles, and shoulders, a quick sharp pulse, dry and hot skin, furred white tongue.

V. S. ℥ xv.

R. P. Jalap. c. ʒi.

Antimon, Tart. gr. i.—stat.

Vespere.—Blood cupped and buffy; p. softer; skin still dry and hot; scanty stools, with griping.

R. Calomel, gr. x.

Colocynth, gr. x.

Opii. gr. i.

Antim. Tart. gr. ½—now.

7th.—Slept well, perspired, feels better; but the pains continue.

Ol. Ricini, ʒiss.—stat.

Warm bath at noon.

Vespere.—Was freely purged; perspired, and feels easy.

R. Potass. Hydriodat. gr. vi.

Vin. Colchici, ʒss.

Mist. Camphoræ, ʒi. ft. haustus.—h. s. s.

8th.—Slept well, feels free from all pain, swelling of joints abating.

P. Jalap. c. ʒi.

Vin. Colchici, ʒss.—now.

Repeat the Iodine draught at noon and bed time.

9th.—Skin dry, thirst; severe headache.
Jalap. P. c. ʒi.
Antim. Tart. gr. i.
Mist. Camphoræ, ℥ i.—now.
Warm bath at noon, and the draught at noon and bed time.

10th.—Free from fever. Pains scarcely felt; swelling much less.
Repeat the Iodine draught 3 times to-day.
2 Rhubarb pills,
And Pil. Hydrarg. gr. iv. } h. s. s.

12th.—Bandage both limbs smoothly, and continue the draughts, &c.

18th.—All the joints are of their normal size, and free from all pain. Discharged.

This young man came into Hospital again in July; suffering more severely than before from articular rheumatism; all the joints of the fingers were swollen and stiff, the ancles and knees very painful. This attack did not yield, until, after repeated V. S. free purgation, and continued small doses of calomel and antimony, all the natural secretions were restored. I think he was kept under slight salivation for some weeks; the cure was then rapidly promoted by recourse to pressure, colchicum, and iodine.

Remarks.—I have had frequent opportunities of using the iodine in rheumatism, and could add many cases illustrative of its beneficial effects in acute and chronic rheumatism of joints attended with thickening and swelling of the cartilaginous articulations, or of serous effusion into bursæ mucusæ or cellular tissues. I could not do so honestly however without adding that my confidence in the remedy is not such as would induce me to make use of it in all cases of rheumatism, in all constitutions, and unaccompanied or unpreceded by other and important measures, necessary, in my opinion, to its possible success. Of these I must premise V. S. when the pulse is quick and sharp, the skin dry, the urine scanty; purgatives when the bowels are costive or loose (as they always are, after costiveness, unrelieved by proper means,) and mercury, when the alvine and biliary secretions are irregular and the balance of the circulation much disturbed, as well as opium when along with the latter the nervous excitability is great.

Having by such means, and the secondary though not less available external agents of the warm bath, and enemata, done what was most urgently required in the first instance, viz. solicited healthy secretion, and "restored the balance of the circulation and irritability," I know no agent laying claim so justly to specific virtues as the iodine and colchicum in the form of rheumatism mentioned, by removing the adventitious deposits, and with them the pains, &c. which accompany the disease, whether situated in the muscular, the fibrous, or the cartilaginous tissues.

I might mention, that I have for some time been making use of the iodide of potass, in combination with iron and purgatives, with most satisfactory results in the treatment of glandular and other scrofulous diseases.

When I commenced this remedy, of which a very small supply was procured from England 2 years ago, I administered it with aloes and gentian in spleen cases. When my supply was exhausted, I used a combination which I see now much recommended and even prescribed by Dr. Elliotson, viz. solution of 5 grains of hydriodate of potass with ℈i. of carbonate of iron, &c. which extemporaneous form of administration he fancies less stimulant or irritative, though equally useful as the regularly made hydriodate or ioduret of iron.

There are several cases of spleen now under treatment in the General Hospital and the Upper Orphan School, which have resisted all other usual forms of treatment, but appear to be making steady and satisfactory progress under this combination, the result of which I hope some day to communicate to you.

GOVERNOR GENERAL'S BODY GUARD.

CASE OF ELEPHANTIASIS OF THE SCROTUM,

TREATED BY

IODINE,

By F. H. Brett, Esq.

Shaikh Ameer Ali, æt. cerciter 40, a robust soldier of the Governor General's Body Guard, of healthy constitution in other respects, had for some months experienced irritation and pain, with tumefaction of the scrotum whilst riding his horse. The tumefaction gradually increased, and extended to the whole of the penis, the enlargement and weight being considerable. He was admitted into Hospital a few days previous to my receiving charge; Mr. Chapman had commenced upon the iodine, prescribing an ointment of the hydriodate of potass. But the remedy had not at that period had time to produce any remarkable effect on the disease.

It gradually did under a perseverance in the above, adding the iodine, as in the following formula.

Iodine, ℈i.
Hydr: Potassæ, ʒss.
Adisis Suillae, ℥ ij.
M. ft. unguentum.

Administering the tincture likewise, commencing at 5 drops and increasing the dose guttatim.

The benefit has been extensive and rapid, reducing the tumor in the course of twelve days to one half of its size, and affording every prospect of a complete cure.

The case decidedly confirms the great power of iodine over the disease, as first adopted by Dr. Stuart.

Dr. Stuart's treatment appears to have been successful in the tubercular, the ulcerated, (Joozzam of the Arabians) and every variety of the disease, excepting the white* stain, or leprous spot. The perseverance with the white oxyde of arsenic, the black pepper, and mudra, in repeated and gradually increased doses, has certainly checked the progress of the disease, when preceded by antiphlogistic measures, the administration of cathartics, and sudorifics, and careful attention to diet ; but bears no comparison with the remedy now proposed to the profession as a specific.

REVIEW.

Treatise on Diseases of the Skin, founded on new Researches of Pathological Anatomy and Physiology, by P. RAYER, D. M. P., *Translated from the French, by* WILLIAM B. DICKINSON, M. R. C. S., 8vo. pp. 398. MESSRS. THACKER AND CO., CALCUTTA.

Continued from page 396.

The practical information contained in this work has led us into a longer notice than we had intended to give it, but the most important chapter is that on inflammation of the skin, and we particularly call attention to our analysis. Our author, alluding to the numerous diseases to which the skin and its appendages are subject, divides them into two principal classes. He considers the skin as the seat of wounds, acute or chronic inflammations, congestions, neurosis, morbid colorations, discolorations, and secretions, defects of conformation, and alterations of texture. Our author means, by the appendages to the skin, the nails and hair, which sometimes present anormal dispositions, consecutive to alterations of the parts of the skin, which produce these appendices. Rayer is also of opinion that animals may be produced, live, and propagate on the surface, or in the substance of the skin.

" The following table exhibits at the same time the names of the principal alterations of the skin and its appendages, and the order in which they will be successively described. Wounds of the skin being entirely within the domain of surgery, will not be treated of in this work. I should have equally abstained from speaking of some other diseases quite foreign to the skin, at least at their outset, if their real seat had been more generally known, and they had not still been the subject of pretty sharp discussion.

Under the term *inflammations of the skin*, I designate all diseases characterised at their outset by accumulation of blood at a particular point or region, or over the whole surface of this membrane, whether this alteration be followed by complete resolution, by desquamation, morbid secretion, ulceration, induration, or any other change in the organization of the part affected.

Inflammations of the skin, far more numerous than those of other membranes, present themselves, both at their outset and in their course, under various modifications ; these may, however, be reduced to nine principal forms :

1° *Exanthemata*, characterised by a general red tint of the skin, or distinct red, or reddish patches, scattered over its surface, terminating by resolution, delitescence,* or desquamation.

2° *Bullæ*, or small aqueous, transparent tumours, formed by an effusion of serosity between the epidermis and the inflamed reticular body.

3° *Vesiculæ*, or small serous, transparent elevations, differing from bullæ only by their smaller dimensions, are formed by a small drop of serosity deposited between the epidermis and reticular body. These small drops may be absorbed or effused on the surface of the skin, in consequence of rupture of the

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* There is a writer in a public office at Lucknow, who certainly does succeed in curing the white form of leprosy. His remedy is a secret.

A boy of 12 years of age, in whom the disease existed, was brought regularly to the resident clergyman, to watch the progress of the cure, when I had an opportunity of seeing the patient : the clergyman assured me he had carefully watched through every stage of the treatment and that the amendment throughout was progressive. The disease was nearly cured when I saw the case.

* By delitescence, which is not strictly an English term, although it has been introduced by some writers, is meant the sudden disappearance of an inflammation, or even a collection of matter, from one region, without its appearing on any other, or giving rise to the development of any internal affection; it is thus distinguished from metastasis.

raised epidermis. They are sometimes succeeded by superficial excoriations, or by small, thin, lamellated crusts.

4º *Pustulæ*, or *purulent* elevations, formed by the effusion of pus, or a morbid humour not serous, between the epidermis and inflamed reticular body. These humours ordinarily dry more slowly than the preceding, under the form of hard thick crusts, which sometimes conceal deep excoriations or ulcerations.

5º *Papulæ:* these are solid resistant* elevations, accompanied by itching, and commonly terminate by resolution or desquamation, more rarely by ulceration.

6º *Tuberculæ*, small, solid, circumsciribed, indurated, resistant tumours, larger than papulæ, and terminating by partial suppuration or ulceration.

7º *Furunculi:* solid tumours, more voluminous than tubercles, caused by inflammation of the cellular processes or elongations entering into the areolæ of the dermis.

8º *Squamæ:* these consist of the altered lamina or lamellæ of the epidermis, produced by the inflamed reticular body, and are continually being detached from the surface of the skin.

9º *Fissuræ*, or lineal cracks of small depth, and which seldom extend through the whole thickness of the skin.

All inflammations of the skin, except those called *gangrenous*, the original form of which is but little known, necessarily depend on one or more of these primary alterations, the external characters of which are easily recognised and determined.

By taking these primary alterations as the basis of the classification of phlegmasiæ of the skin, it appears that the distinctive traits of each class may be more readily seized on than they could have been, had I adopted any other distribution. According to this fundamental consideration, inflammations of the skin, distinct from, or approaching each other in their primary forms, have been thus subdivided :

INFLAMMATIONS.

1º *Exanthematous* :—Rubeola, roseola, scarlatina, urticaria, erythema, erysipelas.

2º *Bullous :* Vesicatoriæ, ampullæ, pemphigus, rupia, zona.

3º *Vesiculous :* Herpes, psora, eczema, miliaria.

4º *Pustulous:* Varicella, variola, vaccina, vaccinella, ecthyma, cuperosa, mentagra, impetigo, tinea, artificial pustules.

5º *Furunculous:* Hordeolum, furuncle, anthrax.

6º *Papulous :* Strophulus, lichen, prurigo.

7º *Tuberculous :* Lupus, cancer, elephantiasis of the Greeks.

8º *Squamous :* Lepra, psoriasis, pityriasis.

9º *Lineal :* Fissures.

10º *Gangrenous :* Malign pustule, bubo of the plague.

11º *Multiform :* Burns, frostbite, syphilitic eruptions,

Ulcers are not enumerated in this classification. They never constitute a primary alteration. They always succeed to subcutaneous abscesses, or to vesiculous, pustulous, or tuberculous inflammations, &c. The study of ulcers cannot be separated from that of the different inflammations which produce them.

All inflammations of the skin affect more or less the reticular body of this membrane; some attack the dermis itself, the sebaceous follicles, the bulbs of the hair, the interareolary cellular tissue of the dermis, and even the subcutaneous cellular tissue.

The three morbid phenomena which are said to characterise inflammation, *pain*, *heat*, and *swelling*, present in phlegmasiæ of the skin numerous shades and varieties, which we shall make known when considering the characters of the different groups, or when treating individually of each of the diseases composing them. I shall confine myself, in this place, to stating that *itching*, *pricking*, *shooting*, *smarting*, *burning*, *erosion*, *tension*, &c. are so many forms under which *pain* of the skin may show itself; that several phlegmasiæ are accompanied by violent and intolerable itching, while others excite it only in a slight degree; that morbid heat may be absent, slight or intense, mild or acrid, and sharp, &c.; that *tumefaction* of the skin, very apparent in some inflammations, (*erysipelas*, *variola*, *anthrax*, &c.) is imperceptible in roseola, some varieties of erythema, &c.

The functions of the skin are always more or less disordered in inflammations. Cutaneous perspiration may be suspended, diminished, or augmented; the secretions of the sebaceous follicles, those of the epidermis, the sensation of touch, and the hair and nails, may also offer more or less remarkable alterations.

Several phlegmasiæ are developed indiscriminately on all parts of the body, (*erythema*, *erysipelas*, *eczema* &c.;) some affect, particularly or exclusively, certain regions (*cuperosa*, *mentagra*, *tinea*, &c.); others, lastly, almost always affect the whole surface of the skin, (*rubeola scarlatina*, &c.)

Of the inflammations of the skin, some have constantly an *acute* or *chronic* form; others, according as the causes which produce them are temporary or permanent, may assume either of these forms.

All *acute* and intense phlegmasiæ of the skin cause an acceleration in the motion of the blood. Frequency of the pulse also often precedes the appearance of the heat, and even of the inflammatory alteration of the skin; but, in this case, the cutaneous affection is preceded by gastric, intestinal, bronchial, or vesical inflammations, &c. *Chronic* inflammations, on the contrary, are often developed on the skin without causing the slightest derangement of the principal functions.

* Resistant, again, is not an English term, although its meaning is obvious, (the possession of resistibility); and so with several other words, as flavescent, &c., but which may be conveniently introduced in describing the characters of tumours and other alterations of the skin.

Acute and *chronic* cutaneous inflammations sometimes coincide with phlegmasiæ of the mucous membranes; these are often *cause* or *effect* to the former. But, in the study of these complex cases, it is frequently difficult to determine which affection is primary or secondary.

The mucous membranes at times present the same form of phlegmasiæ as the skin; the difference of structure, however, which exists in the organization of these two divisions of the cutaneous system necessarily causes, in development and frequency, different inflammatory forms on their surfaces. Besides this, the peculiar appearance characteristic of each phlegmasiæ, easily observed on the skin, are obscured or lost on the mucous membrane.

The causes of phlegmasiæ of the skin are sometimes evident, more frequently obscure, or altogether impenetrable. They act either directly on the tegument, or indirectly through the medium of some other organ. The contact of physical or chemical irritants, that of vaccine, variolous, or syphilitic virus; the sympathetic influence of phlegmasia of the mucous membrane, particularly that of the digestive organs in the acute or chronic form, are the most general and least doubtful causes of cutaneous inflammations.

To establish the diagnosis of an inflammation of the skin, it is requisite, in the first place, by an attentive inspection, to endeavour to ascertain its *primary form*, that is, to determine whether it has the characters of an *exanthematous, bullous, vesiculous, pustulous inflammation*, &c.; with this view, we can but compare its symptoms and progress with those of the phlegmasiæ which come under the same generic form. In a particular case the diagnosis may be more or less difficult, according as the primary form of the inflammation is intact, or more or less altered; according as it is destroyed or replaced by other *consecutive* alterations; lastly, according as the disease is simple or complicated with other cutaneous inflammations, characterised by the same or some other primary form. At all times, the knowledge of the alterations *consecutive* to the different primary forms of phlegmasiæ will necessarily assist in the detection of these latter. They are often to be found also intact in the vicinity of those points of the skin the earliest affected. Although several forms of phlegmasiæ may exist simultaneously on the same region, or on the same individual, one particular form will always predominate, to which the others will be connected incidentally, constituting complications more or less serious.

Inflammations of the skin being occasionally associated with diseases of the mucous membrane, of the viscera, &c. the diagnosis, to be complete, should equally recognise the presence or absence of these affections.

It is frequenly difficult to prognosticate what will be the progress and termination of some cutaneous inflammations; while the duration and successive changes of others, as well as their curability or incurability, are easily calculated.

In the treatment of inflammations of the skin, it is always necessary to moderate or subdue the irritation, primary or secondary, of the integuments. A severe regimen, the use of aqueous drinks, and the external application of water, are powerful means in the treatment of these diseases. Acute inflammations frequently require nothing more to keep them within certain limits than the antiphlogistic treatment and regimen; the malady left to prey on itself, so to speak, the cure naturally follows. But whenever these inflammations appear to have a tendency to spread extensively over the skin, the subcutaneous cellular tissue, or other organs, venesection will be required once or oftener, or blood may be drawn from near the inflamed part by the application of leeches, repeated if necessary.

Occasionally it is necessary to cause an internal irritation, to arrest certain grave and intractable phlegmasiæ of the skin. If the digestive organs be perfectly healthy, it is on them that we act with this view. This derivative method, which requires great vigilance on the part of the practitioner, is generally pleasing to the patient, because it requires a less regular and rigorous mode of living than the strict antiphlogistic plan.

Many inflammations, primarily chronic, or become so, often continue stationary in despite of the antiphlogistic, or derivative method. We must then have recourse to the local use of astringents and excitants, as the means of changing the mode of irritation. This treatment is usually followed by a temporary exasperation of the symptoms, at the end of which a complete cure is sometimes obtained. We should not carry this treatment beyond certain limits, however, or the malady becomes aggravated, and assumes a graver character.

The frequency of cases in which the disappearance of the cutaneous affection has been observed to coincide with the development of progress of an internal inflammation, shows the danger of suddenly suppressing the external inflammation. Some cutaneous phlegmasiæ seem to have a more necessary course (that is, they have to go through certain changes or stages, before any progress is made towards a cure) than the phlegmasiæ of the mucous membrane. The delitescence of diseases of the skin is the more dangerous because often followed by metastasis on organs, the irritation of which is attended by much more serious consequences than the progress of the affection which we are endeavouring to cure.

On the other hand, some diseases of the viscera exert such an influence over inflammations of the skin, and there exists so intimate a relation between them, that if the latter are injudiciously subdued, it does not

fail to aggravate the former.* It is from this reason that all cutaneous affections which supervene during the course, or towards the decline of an internal phlegmasia, should be encouraged, if not too intense, and provided the internal disease advances towards a cure, or becomes less grave, as the affection of the skin is developed. The practice of producing and maintaining artificial inflammations, which the therapeutist sometimes adopts, on certain regions of the body, is founded on analogous observations."

Our author then proceeds to describe the several affections laid down in the foregoing sub-divisions. The following practical remarks on tuberculous lupus will be interesting to most of our readers.

(P.) "Lupus is always a very obstinate disease. It is seldom that the cure can be obtained till after some months, or even years, of treatment. It does not affect life, for it attacks organs of but slight importance; it is never accompanied by febrile action, and but seldom gives rise to other sympathetic affections. Its progress is sometimes observed to be suspended for a time, and afterwards to acquire, without any appreciable cause, renewed violence of action. The chronic inflammation of lupus may be ameliorated during the development of an internal phlegmasia, particularly that of gastro-enteritis. When the subjects of lupus die, it is almost always in consequence of an accidental inflammation of the lungs or organs of digestion.

(T.) Lupus, in its first stage, when developed in persons who are not scrophulous, should be treated by the application of one or two leeches to each tubercle, by covering these small tumours with narcotic cataplasms, made of the fresh pulp of such plants as the henbane, night-shade, &c. In scrophulous subjects, on the contrary, bitters may be employed with success, such as gentian, &c., combined with the use of cold or sulphureous baths, particularly when their effects are favoured by a strengthening diet, a residence in pure air, &c. If the state of the digestive organs admits, there is sometimes benefit obtained by causing a temporary revulsion towards these parts. Bateman recommends the muriate of barytes, under these circumstances, to cause the resolution of the tubercles developed on the face; but the use of this preparation is attended with so much danger, that, as a general rule, it should be avoided. Muriate of lime, though less energetic, should never be employed without its effects being narrowly watched. In fact, the tonic treatment, as adapted to scrophula, appears the best to effect the resolution of the tubercles and prevent ulceration; but it should be so conducted as not to irritate the digestive organs.

The ulcers of lupus do not usually cicatrize, unless they are stimulated by certain preparations of which experience has taught the utility. Like several other chronic inflammations of the skin, these ulcerations are seldom successfully treated during winter.

Among the preparations recommended in ulcerated lupus, the powder* used by M. Dupuytren holds the first place. According to this celebrated professor, this remedy, which acts as a specific as well as a caustic, should be employed as follows: "The surface of the eruption, if ulcerated, humid, and clean, should be sprinkled with this powder by means of a powder-puff, so as to form a layer of a millimetre,† or more, in thickness. If a crust is formed over the surface of the sore, this must be previously removed by poultices. If an imperfect cicatrix even should be formed, it must be destroyed; in twenty-four hours the bleeding will have ceased, and then the powder may be applied. If it is found that the powder does not sufficiently adhere to the parts, or that it be raised, or removed from them, it may be retained in contact, by being incorporated with gum-water or rose ointment. In this case, the quantity of arsenic may be increased by one or two hundredth parts. In all cases, the spontaneous fall of the powder or ointment must be awaited; this usually takes place in about eight or ten days, and the application may be then repeated in the same way till the cure is complete; this is generally obtained in eight or ten weeks, or after five or six dressings. An experienced practitioner may increase or diminish the proportions of the ingredients, according to the extent and depth of the disease; but it is of importance that neither of them should be omitted in the composition; both appear necessary for its success, without its being exactly ascertained the share which either has in its effect.‡"

When the ulcerations are numerous and of considerable extent, the powder should be sprinkled only over a surface of an inch or two in diameter. Lastly, when the ulcers of lupus are very old and indolent, advantage is gained by covering them with a blister before using the powder. This preparation is preferable to the arsenical paste of Frére Côme, as it does not cause erysipelas around the parts to which it is applied; it is not so powerful an escharotic, and its application may be frequently repeated without danger.

Frére Côme's paste, however, has effected several cures. The mode of its application has been fully detailed by M. Patrix.§ I shall only remark here that it should not be applied to bleeding wounds of large extent, as absorption of the arsenic may give rise to serious symptoms. Before applying the

* Raymond, *Maladies qu'il est Dangereux de Guérir*. 8vo. Paris 1816. "Chap. I. De quelques incommodités de la peau, ou de quelques éruptions cutanées."

* R. Calomel prepared by vapour, p. 199. Arsenious acid, p. 1. Mix.

† About half a line.

‡ Ratier, *Formulaire Pratique des Hopitaux de Paris, ou, Recueil des prescrip'ions Medicam : Employées par les Medecins et Chirurgiens de ces Etablissemens*. 2 Ed. 1825.

§ Patrix, M. *l' Art d' Appliquer le Coustique Arsenicale*, Paris.

arsenical paste, the surface of the ulcers should be cleansed by means of emollient lotions or cataplasms. The eschar formed by the caustic should be allowed to fall spontaneously. After it has become detached, the surface of the ulcer is found to have diminished in extent, and to have assumed a healthier aspect.

The requisite number of dressings may vary from one to upwards of twenty, according to the number and extent of the ulcerations. The employment of this remedy often gives rise to the development of erysipelas on the face. Some considerable time should be allowed to elapse between each dressing, when they are required to be repeated.

Messrs. Richerand and J. Cloquet have obtained the cicatrization of very obstinate lupus, by cauterization with the nitrate of mercury.

Cauterization with potass, nitrate of silver, butter of antimony, &c., is not so successful as that by the arsenical paste.

The actual cautery should never be had recourse to in large ulcers of lupus of the nose. When it has been employed, the bones and cartilages of the nose have been known to swell, and to become attacked by chronic inflammation, from which they were previously free.

When cicatrization has commenced in ulcerated lupus of the nose, care should be taken that the apertures of the nostrils are not obliterated. To prevent this, a small piece of prepared sponge should be introduced, and maintained for some time, in each nostril alternately. If, through the obstinacy or neglect of the patient, these apertures become obliterated, they must be re-established by the scalpel, or caustic, followed by the use of the sponge.

Some powerful remedies have been employed with various results, in the treatment of very serious and intractable lupus. *Internally*, the animal oil of Dippel has been administered in the dose of six drops, and increased to twenty per day. Feltz' decoction has been given to the dose of a pint a day; and the Asiatic pills, so as that a grain of the protoxyde of arsenic is taken in the same time; Pearson's solution in the dose of forty or fifty drops a day; Fowler's, to ten or twelve. It is not until these dangerous medicines have been administered for several months that their utility becomes manifest; they more frequently prove useless, or injurious.

Externally, frictions, with ointments of the ioduret of mercury, have been more useful; but they frequently produce erythema, and at times erysipelas.

Most of the cases reported by Bachelet de Lindry* appear to have been syphilitic inflammations, which, after having commenced by tubercles or pustules, terminated in ulcerations of more or less considerable extent; the cure was effected by the deuto-chloruret of mercury. One of his cases (VII.) was that of cancer of the nose; in fact, his work does not contain one well-marked case of lupus. A distinguished pathologist also has reported, under the name of *dartre rongeante*, cases of cancer, and syphilitic tubercles of the face. It is of great importance, however, not to confound three diseases, the treatment of each of which is so very different.

In a country like India where elephantiasis is exceedingly common, the people generally suppose that it is not thoroughly understood in other countries where it is not frequent. The best proof we can give of the error of such a conclusion is to quote Rayer's opinion and description of the affection.

Elephantiasis is a very rare disease in Europe. In the two cases I saw in Paris, the disease was contracted in the one at Gaudaloupe, in the other at St. Domingo. The principal cases of this disease have been collected from Martigues in the island of Cyprus, from the islands of Feroe, Guadaloupe, St. Domingo, Isle of France, &c. It prevails more especially in maritime countries, in islands, and in countries abounding in ponds and marshes, and in those divided by deep bays and the inhabitants of which feed on fat oily fish.

This disease may declare itself before or after puberty, and attacks both sexes indiscriminately.

Areteus, and several others, have thought elephantiasis contagious. Vidal and Heberden maintained, with truth, that there does not exist a single positive fact which can be cited in favour of this opinion of the Greek physician. It is generally supposed that want of cleanliness, bad aliment, and the habitual use of fish, may have some influence in the production of the disease.

(D.) Elephantiasis of the Greeks has been confounded by some modern pathologists with lepra, and elephantiasis of the Arabs. The three, however, are distinctly separate; the first is characterised by tubercles of the same tint as the skin, and seated in the substance of this organ, or the subcutaneous cellular tissue; lepra is a squamous inflammation, the principal characters of which consist in scaly plates of various dimensions, nearly always circular, and surrounded by a reddish ring; elephantiasis of the Arabs is announced by a considerable tumefaction of one region alone, and most frequently one of the lower extremities, caused by a peculiar inflammation of the veins, vessels, lymphatics, and glands, and also of the subcutaneous cellular tissue. In fact, lepra is a *squamous*, Greek elephantiasis a *tuberculous* disease, and the skin is not at all primarily concerned in Arab elephantiasis; three circumstances which establish a marked difference between the three diseases.

The numerous scattered tubercles of elephantiasis cannot be confounded with those

* Bachelet de Lindry, *Dissert. sur la Dartre Rongeante*. Paris, 1803.

of cancer of the skin, which are commonly solitary, and attended by acute lancinating pains; and still less with those of lupus, which are always red, violaceous, flatter, larger, and more superficial. The ulcerations of lupus and cancer are also distinct enough from those of elephantiasis.

Many pathologists have confounded syphilitic tubercles and ulcerations with elephantiasis. To avoid this, it is enough to remember that the former are always consecutive to chancres, or buboes; that they are of a violet-red colonr, often grooved, more superficial and voluminous than those of elephantiasis; that they have a greater tendency to ulcerate; that they are deeply excavated, and their edges hard and sharp, the bottom greyish; lastly, that they are successfully treated by mercurials, always injurious in elephantiasis.

(P.) Greek elephantiasis is nearly always incurable. If the tubercles are not inflamed, or when they suppurate and ulcerate at distant periods, the free and regular exercise of the functions of digestion, respiration, innervation, circulation, &c., may continue; but if inflammation seizes at the same time several tubercles, and extends to the mucous membrane of the air-passages, the number of the inflamed parts, and the importance of the organs secondarily affected, render the prognosis more grave.

(T.) The treatment of elephantiasis is one of the most obscure points of its history. Vegetable diet, broths of the most wholesome meats, turtle flesh, skimmed milk, with decoction of barley and oatmeal, have been much recommended, more with the hope of arresting the disease, than of obtaining a cure. Cold, emollient, and narcotic baths, diminish the irritation of the skin, when the inflammation is general, or very intense.

Different remedies have been tried, with the intention of favouring the resolution of the tubercles. Blood-letting, purgatives, sudorifics, antimonial and mercurial preparations, and tinct. cantharid., have all been employed with but little success. The protoxyde of arsenic, lauded as an infallible cure, has been recently tried by several distinguished practitioners, who have found more inconvenience than advantage from its use. Two Asiatic pills* contain one sixth of a grain of the protoxyde. The number of two pills a day should not be exceeded, if their use is for any continued length of time. Fowler's, or Pearson's solution, may be also administered under the same circumstances.

The action of arsenical preparations on the skin is too slow and remote to be easily appreciated. The introduction of arsenic into the stomach sometimes gives rise to the development of erysipelas; and this inflammation having itself a marked influence on the resolution and suppuration of the tubercles of elephantiasis, it is probable that arsenic produces some peculiar irritation of the skin when its administration is beneficial.

According to this hypothesis, the same results might be expected from external medications. Sulphureous baths have appeared to be but of little advantage in the few cases in which they have been tried. Frictions with volatile liniments, or ointment of hydriodate of potass, readily produce inflammation of the tubercles. If its action is too intense, its use must be suspended, and tepid baths employed. On the superior extremities the ulcerations are covered with crusts, and cicatrize without any external application; the ulcers of the legs, ancles, feet, and toes, often require treatment adapted to modify, or revive the inflammation, according to its intensity.

The subjects of Greek elephantiasis should remove, if their residence is in a humid marshy district. The colonists of Guadaloupe and St. Domingo remove to Desirade when attacked with this disease, as do those of the Isle of France to the island of Don Diego Garcia. At the end of a prolonged sojourn on these islands, the inhabitants of which live chiefly on cocoa-nuts, fowl, and turtle, the patients experience marked relief, and some even recover their former state of health.

477. Bonet* and Schilling† have given very imperfect designs of elephantiasis. Bateman, in his large work, has a beautiful engraving of it. Raymond has confounded, under this name, several widely different diseases: elephantiasis of the Greeks, lepra, elephantiasis of the Arabs, syphilitic tubercles, and some other chronic diseases of the skin. However, of three cases given in his small *Treatise*, the first two appear to be really cases of elephantiasis; the third is syphiloid.

The characters of elephantiasis are not minutely described by M. Ruette.‡ He does not appear to have distinguished elephantiasis of the Greeks from that of the Arabs, or the *Barbadoes Leg*. The cases of Lawrence and Southey are much more detailed and accurate."

We must now conclude, but we have no doubt our readers will be glad to hear that it is our intention to revert to the work next month with the view of shewing our author's description of elephantiasis of the Arabs; on Plica and on Pediculi.

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* R Protoxyde of Arsenic grs. lv. Black Pepper oz. ix. Pound in an iron mortar for four days at intervals. When the mixture is reduced to an impalpable powder, add water gradatim, so as to form a mass to be divided into eight hundred pills. They should be kept in a stone jar.

* Bonet, *Medicina Septentrionalis* 1687.

† Schilling, *De Lepra Commentationes*, Ludg. Bat. 1778.

‡ Ruette, *Essai sur l'Eléphantiasis et les Maladies Lepreuses*, Paris, 1802

Art.—II. A Dictionary of Terms and Technicalities in Anatomy, Pathology, Physiology and Surgery, abridged from the latest editions of the French and English Dictionaries, and other works on the Medical Sciences; and adapted for the Students at the Calcutta Medical College. By M. J. BRAMLEY, *Principal of the Medical College, Oct. pp.* 235. THACKER *& Co. Calcutta.*

Mr. Bramley informs us in his preface that this dictionary is compiled with the view of assisting the native student in the prosecution of his studies at the Medical College. Such a work was a desideratum in a country where dictionaries of medicine and surgery are not only scarce at the present moment but expensive. The volume before us, considering the number of its pages, contains well-arranged information on general anatomy, together with notices of medical and surgical diseases, and is creditable to Mr. Bramley's industry and judgment.

THE INDIA JOURNAL
OF
MEDICAL AND PHYSICAL SCIENCE.
Calcutta: September 1, 1836.

CONSTITUTION
OF THE
MEDICAL DEPARTMENT
H. C. SERVICE.

In our last we brought the young medical gentleman to the period of his promotion to the rank of Surgeon, up to which period we left him still in debt, having only had the means previously to discharge the interest. It is unhappily too true that up to this date the medical man has not received more than a bare subsistence; and, so far from being paid for the service he has rendered to the state, we will venture to prove, that, considering the capital he has sunk in the attainment of his profession and his outfit and passage to India, the poorest clerk in the Honourable Company's Offices in Leadenhall-street is more amply and more equitably remunerated; and that the Sudder Ameen, who has never expended more than a trifle upon his acquirements and escaped all the anxiety and toil of laborious duties, reaps a higher salary, stands more elevated as regards independance and importance, than a young military assistant surgeon under the direction of many masters, on each of whom he is dependent for consideration and kindness; and however distinguished for his intellectuality and scientific knowledge, he is still doomed frequently to experience opprobrium from his inferiors in every other respect than that which the military commission confers, and is kept confined to his certified sphere, until he begins, after 15 years' drudgery and humiliation, to look up a little and to stand side by side with the youngest captain of a company. What are his circumstances at that time?

The senior assistant surgeon now on the list on the Bengal side of India has been about 15 years in that grade; the average age at which he enters the service is 25: he is therefore now in his fortieth year, with a debt of Rupees 8,600 or £860 to be liquidated. Hitherto we have considered him only as a bachelor; if he has chanced to be married and has a family, of course he has not been able to pay even the interest of his debt; so that his debt must be nearly double that to which we have alluded.

The medical man is not considered fully qualified for the performance of his delicate and responsible duties unless he is married. Celibacy in him is a perpetual disadvantage; and he has no peace after he joins his regiment, until he leads to the hymeneal altar the destined partner of his dreary pilgrimage. In short, it is deemed essentially necessary, that a medical man should be married, to be chosen as a family practitioner; and he therefore complies ordinarily with what he finds to be the universal wish. We believe that at this moment the majority of medical men are married. The additional expenses attendant on this state, with a family, are now

to be added to his items of expenses, which are far above what a family entails in Europe, where there is seldom a separation, and if for any period, the outlay is considerably lighter to what it is in India, where the separate establishment incurs a double expense. The medical man is frequently called upon field service, so that this double expense until of late years has been experienced by the majority of medical men in India.

Can the politician insure a continuance of peace, and secure the military surgeon from a similar contingency in a country where nothing but opportunity is required to draw the sword from its scabbard to be weilded to our destruction? if he cannot, we are not taking up an improbable position to take this in our estimate. But we may be told that a medical man is not obliged to marry: be it so, and we retort, neither is he to break down those endearing affectionate ties of home and kindred, and sojourn in a land of bondage uncongenial to his nature, and deprive himself of the greatest consolation bestowed on man, we mean domestic happiness. To take a full view of the circumstances of the surgeon, on his attaining that rank which relates to the remuneration rendered for services during 15 years in India, we must take into consideration what he is justly entitled to expect in return for the capital he has sunk for the attainment of the knowledge of his profession and other expenses inseparable on his proceeding to fill the appointment in the Honourable Company's service. Looking back upon our former calculations we find his expenditure to attain his degrees as surgeon has amounted at the least to.. ....£ 500
His outfit and passage to India .. ,, 200
Camp equipage, tentage, &c. .. .. ,, 150

Total £ 850

Now five per cent. which is always to be obtained on the best security in London, on the above sum yields £ 42-10-0. The interest however on the sum alluded to for fifteen years is £ 637-10-0, which, added to the principal, is £ 1487-10-0. Thus then had the surgeon, instead of labouring for the acquirement of the medical profession—instead of bursting the ties of friends and relations—instead of enduring servitude in a tropical unhealthy climates for 15 years on a bare subsistence, saved the time occupied in acquiring the knowledge of his profession, and applied his talents, the fruits of an academical education, to other profitable and honorable employment, he might, after fifteen years, have been in possession of £ 1487-10-0, the amount of capital and interest sunk in coming to, and remaining in the Hon'ble Company's service. With this sum, after fifteen years in Europe, he might have, in addition to emoluments from other occupations, purchased an annuity of £ 74-7-6; whereas by being in India he is entitled to no pension whatever after fifteen years' servitude. Had he come out with the appointment of cadet, the sum expended in acquiring his profession would, in like manner, have been saved, and his expenses considerably lessened; gradations to rank and pension would also have been more numerous, honorable, and lucrative. If we are suspected in the least of having exaggerated the foregoing picture, we invite discussion to put us right. We are satisfied, however, that so far to the contrary is the case, that numerous medical men have made much greater sacrifices than we have described. Such then are the circumstances of the assistant sur geon after fifteen years' service on his promotion to a surgeoncy. His allowances now are, at a full batta station, including deductions for Military and Orphan Funds, rupees 676. There are other contingencies in some regiments which occasion further deductions, such as a band, mess contributions, &c. We may therefore consider the average receipts to be about 665. Allowing the expenses, as a bachelor and an assistant surgeon, at 321, the very least additional average expense is 150, for wife and children. The disbursements of a full surgeon, as regards camp equipage, is greater than that of an assistant surgeon; he is directed by the regulations of the Service

to have a double-poled tent instead of a single, which is half the size, and therefore requires only half the carriage. Allowing therefore that the full surgeon's expenses amount to rupees 471 on the most economical scale of living, he has 194 rupees over and above to liquidate his debt of 8600, going still on at an interest of 12 per cent. the remittance of 194 rupees per mensem, will liquidate the above in 4 years and 8 months. Supposing there is no interruption to his remittances. But this is not probable ; he has to pay on his promotion, to the widows' fund, a donation of 120 Rs. if he is a married man ; he has also to pay for his commission. We have hitherto considered him in the possession of good health, and therefore in the possession of the allowances of the medical charge of the regiment after the first five years of his entrance in India. We have placed him therefore in the most favorable position. Few surgeons are thus blessed in a country, wherein so many climates, in which they are doomed to sojourn, are inimical to their constitution and health ; most men therefore suffer serious illness at some time or other, and the consequence is that they are compelled to proceed to the hills, on the river, or to Europe ; and thus they are not only deprived of their higher allowances, but have to incur the additional expense of boats, &c. their remittances to discharge their debt now stop, and the interest on it soon doubles it. But another contingency, and a very common one is, that his wife or some part of his family may suffer from the climate; and being compelled to proceed to Europe, he is again obliged to take another loan to defray their passage and keep up a separate establishment in Europe. These are the most common contingencies.

Now hitherto we have, in our items of disbursement, not indulged the medical man with any luxuries, not even with scientific medical works so essential to enable him to keep progress with the advance of medical science ; and the Government do not admit even the least diminution in the Post-office regulations on works of this nature which put greater difficulties in his way. The medical man can neither indulge consistently with economy even in the periodical press. Thus then the surgeon continues in debt until he reaches his next grade, that of superintending surgeon, which we shall consider in our next.

LECTURES

ON

MATERIA MEDICA, OR PHARMACOLOGY, AND GENERAL THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

By Jon. Pereira, Esq., F. L. S.

COUNTER-IRRITATION.

I propose in this lecture to examine that mode or principle of cure usually denominated *Counter-irritation,* and which consists in exciting an artificial or secondary disease, with the view of relieving a primary one. It is a method of treatment derived from observation of the influence which maladies mutually exert over each other. For example, it has been frequently noticed, if a diarrhœa come on during the progress of some internal diseases, the latter are often ameliorated, or perhaps they rapidly disappear, apparently in consequence of this secondary affection. The result of observations of this kind would naturally be the employment of alvine evacuants in other analogous cases where diarrhœa did not spontaneously take place: and this practice is frequently attended with beneficial results. The appearance of a cutaneous eruption is sometimes a signal for the disappearance of an internal affection ; and *vice versâ,* the disappearance of a cutaneous disease is sometimes followed by disorder of internal organs. Here, again, we have another remedy suggested, namely, the production of an artificial disease of the skin, as by blisters, an ointment containing tartar emetic, or other irritant applications ;—a suggestion the advantage of which experience has frequently verified. I might bring forward numerous other examples to prove the fact (which, however, is so well known as to require little proof), that action in one part will often cease in consequence of action taking place in another. Diseases, then, appear to have what Dr. Pring calls a *curative relation* with respect to each other ; and we shall find that the greater part of our most valuable and certain remedies operate on the principle of counter-irritation; that is, they produce a secondary disease which is related to the primary one. Let us offer a few examples ;—vomiting is a powerful means of relief in bubo, and also in swelled testicle.

Mr. John Hunter says he has seen bubo cured by a vomit. I have frequently seen the progress of swelled testicle in gonorrhœa stopped by the exhibition of full doses of tartar emetic. Now it is very improbable that the benefit arises from the mere evacuation of the contents of the stomach. The only plausible explanation that we can offer is, that the emetic sets up a new action in the system which is incompatible with that going on in the groin or the testicle. If this notion be correct, emetics act in these cases as counter-irritants. The efficacy of purgatives, in affections of the head, is best accounted for by supposing that they act on the principle of counter-irritation. Blisters, cauteries, issues, moxa, and other remedies of this kind, are universally admitted to have a similar mode of operation.

Even the efficacy of blood-letting, in inflammatory affections, is better explained by assuming that this agent induces some new action incompatible with the morbid action, than that it is merely a debilitant. The immediate effect sometimes produced on disease, by this remedy, is so remarkable as hardly to admit of the supposition of its acting as a mere weakening agent. One full blood-letting will sometimes put an immediate stop to ophthalmia; and I have sometimes seen, even while the blood was flowing, the vascularity of the eye diminish, and from that time the disease progressively declined. When to this fact we add that the same disease is often successfully treated by other different, and even opposite remedies, such as mercury, and local stimulant applications, we find a difficulty in explaining their common beneficial agency, except by supposing that they influence disease by some relation common to all of them. This view of the counter-irritant operation of blood-letting is supported by Dr. Clutterbuck, Dr. Pring, and others. The term *counter-irritant* is, however, objectionable, since literally it expresses that the secondary disease should be a state of irritation,—a term hardly applicable to the condition caused by blood-letting. But this, as well as other remedial agents (mental impressions, for example), agrees with the counter-irritants, commonly so called (blisters, &c.), in influencing diseases only by an indirect relation; it would be better, therefore, either to extend the meaning of the term counter-irritant, or to employ some other, such as *counter-morbific*. The older writers employed two terms, *revulsion* and *derivation*; the first was applied to those cases in which the secondary disease occurred in a part remote from the seat of the primary affection; the second was, on the contrary, confined to those instances in which the secondary was produced in the neighbourhood of the primary disease. For example, leeches or blisters applied to the feet in apoplexy were called revulsives, but the same applications to the head, in the same disease, would be derivatives. There is, however, no real distinction between them, their operation being similar, for revulsion was even in their own sense of the word only derivation at a distant part.

Topical applications are frequently counter-irritants. Thus we see stimulant washes, applied to the eye, cure ophthalmia; and they operate, apparently, by altering the morbid action, and substituting a milder and more easily cured disease for the one previously existing.

Using the term, therefore, in its most extended sense, we see our list of counter-irritants is a most extensive one. It comprehends emetics, purgatives, diffusible stimulants, mercury, blisters, cauteries, issues, setons, moxa, blood-letting (including arteriotomy, venesection, cupping, and leeches), irritating lavements, frictions, simapisms, rubefacients, the hot and cold baths, and even mental impressions. That is, all these agents excite some action in the system which has a relation (often-times beneficial) with the morbid action; to use Dr. Parry's words, these agents cure disease by *conversion*.

Let us, in the next place, examine that most unsatisfactory part of our subject, the theory or hypothesis of the manner in which the mutual relations of diseased actions are effected. Dr. Parry presumes most diseases consist in local determinations of blood, and that it is a law of the human constitution that excessive morbid determination to two different parts shall not exist in the same person at the same time. Neither of these assumptions, however, is quite correct; but if both were true, they still leave untouched the question how determination of blood to one organ is cured by producing a determination to another. To account for it, some assume that the system can produce only a certain quantity of nervous energy, and that, as in every disease, there is an undue or preternatural distribution of nervous energy, so the production of an artificial disease in one part must, by consuming the nervous energy, diminish the disease in another. But the whole hypothesis is grounded on assumptions perfectly gratuitious and incapable of proof. As Dr. Pring justly observes, were this hypothesis true, it would lead us to employ not bleeding, purgatives, blisters, and all indirect remedies in hepatitis or consumption, but the exercise of the tread-mill for a few hours; so that a patient labouring under phrenitis or pneumonia should be made to walk fifteen or twenty miles a-day, by which it would be presumed so much nervous energy would be consumed in the arms and legs, that there could not possibly be any preponderance or excess in any other seat.

Let us, then, discard absurd hypotheses of this kind; and for the present be content with a knowledge of the fact that one disease, whether artificially or spontaneously generated, will often supersede another. You may, if you please, say that the mutual relation of two diseases is effected by sympathy; but recollect that this mode of expression explains nothing, and gives no information as to the mode by which the relation it effected,—for the word sympathy is applied to those relation only, the causes of which are not understood.

OF THE PARTS TO WHICH MEDICINES ARE APPLIED.

As the effects of medicines vary according to the part of the body to which these agents are applied, and as in practice we are compelled frequently to vary the locality of our application, so it is necessary for me to examine, in a general way, the peculiarities attending each place of application.

Medicines may be applied—1stly, to the common integument or skin; 2dly, to a mucous membrane; 3dly, to a serous membrane; 4thly, to wounds, ulcers, or abscesses; and 5thly, we may inject our remedial agents into the blood-vessels.

1st. OF MEDICINES APPLIED TO THE COMMON INTEGUMENT.—Applications are frequently made to the skin in order to excite local effects, as in the case of blisters, cataplasms, fomentations, lotions, embrocations, &c.; and occasionally to affect remote parts of the system, as by the use of mercury. Most, if not all medicines, which influence distant organs by application to the skin, do so in consequence of their absorption; and as the cuticle offers a mechanical impediment to this process, we generally either make use of friction, or remove the epidermis in order to overcome this obstruction.

There are three methods of applying medicines to the skin, namely, the *enepidermic*, the *iatraleptic*, and the *endermic*.

(*a*). The *enepidermic method* consists in applying medicines to the skin, unassisted by friction; and when we employ plaisters, poultices, lotions, fomentations, baths, &c.

Gases or vapours are sometimes applied to the skin, either as local agents, or as means of affecting the constitution. Thus, baths of sulphurous acid gas are employed in itch; chlorine gas is recommended as an application to the skin in liver complaints; vapours of various mercurial preparations have been employed to effect salivation. The vapour of hot water, holding in solution the volatile matters of vegetables, has been employed in the treatment of many diseases, under the name of medicated vapour baths; though doubtless the greatest part of their efficacy is referrible to the influence of the hot aqueous vapour.

(*b*). The *iatraleptic method* (which has been so called from ἰατρευω, to cure or heal, and αλείφω, to anoint), consists in the application of medicines to the skin, aided by friction. It has been termed the *epidermic method*,—sometimes *anatripsologia* (from ἀνατρίβω, to rub in, and λογος, a discourse), and also *espnoic medicine*. It was employed by Hippocrates and other old writers, but fell into disuse until attention was again drawn to it by Brera, Chiarenti, Chrestien, and others. Among the substances which have been employed in this way, I may mention camphor, digitalis, squills, cantharides, sulphate of quinia, veratria, colocynth, rhubarb, opium, belladonna, mercury, chloride of gold, &c. The doses of medicines require to be considerably larger than when these substances are given by the stomach: generally two or three, often as much as ten, and in some cases even twenty times the customary dose; but no absolute rule can be laid down. The objections to this plan of treatment are the uncertainty of results, the time required to put the system under the influence of medicines, the frequently unpleasant nature of the process (as when mercurial inunctions are employed), and the local irritation sometimes produced by the friction. Notwithstanding these, however, it may be resorted to occasionally with advantage, as where the patient cannot or will not swallow, or where the alimentary canal is very irritable or insensible to the action of the medicine.

(*c*). The *endermic* or *emplastro-endermic* method has been recently proposed by Lembert and Lesieur. It consists in the application of medicinal agents, incorporated with cerate or gelatine, to the cutis vera, the epidermis being previously removed by a blister or by heat. Morphia, quinia, nux vomica, musk, digitalis, sugar of lead, and many other agents, have been tried, and found to produce the same effects as when taken into the stomach. The operation is in general very quick, and in some cases more rapid than when the same substances are swallowed. If the gastric membrane be inflamed, or if the patient cannot or will not swallow, and the case be urgent, this is an admirable method of putting the system under the influence of a medicine. When it is desirable to produce speedy vesication, we may effect our purpose either by hot water or by a heated metallic plate.

2ndly. MEDICINES APPLIED TO THE MUCOUS MEMBRANES.—We have two mucous membranes to the different parts of each of which we make application of medicines: the first is the gastro-pulmonary membrane, the second the urino-genital.

(*a.*). *Gastro-pulmonary membrane.*

1. Ocular mucous membrane (conjunctiva).
2. Nasal or pituitary membrane.
3. Bucco-guttural membrane.
4. Eustachian membrane.
5. Aërian or tracheo-bronchial membrane.
6. Gastro-intestinal membrane.
7. Recto-colic membrane.

(*b*). *Urino-genital membrane.*

8. Urethro-vesical membrane.
9. Vagino-uterine membrane.

1. OCULAR MUCOUS MEMBRANE OR CONJUNCTIVA.—Medicines are applied to the *conjunctiva*, under the name of *collyria*, to excite local effects only, though we might employ this part for other purposes, since remote effects may be obtained by it. Thus a drop of hydrocyanic acid applied to the conjuctiva of a dog produces immediate death.

2. NASAL OR PITUITARY MEMBRANE.—We seldom apply medicines to the *pituitary* membrane except in local diseases, or in affections of neighbouring organs. Sometimes they are applied to irritate this

part, and excite a discharge: these are then called *errhines*; but when employed to excite sneezing, as when foreign bodies are in the nasal cavities, they are termed *sternutatories* or *ptarmics*.

3. BUCCO-GUTTURAL MUCOUS MEMBRANE.—Very rarely medicines are applied to the *mouth* and *throat*, except for local purposes. However, it has been proposed to excite salivation by rubbing calomel into the gums. Solids used in the mouth are termed *masticatories*; liquids are called *collutoria* or *gargarismata*.

4. EUSTACHIAN MEMBRANE.—Aurists now and then apply washes to the *Eustachian tubes* in local affections; but the occasions for this practice are rare, and the operation difficult, except in practised hands.

5. AERIAN OR TRACHEO-BRONCHIAL MEMBRANE.—Accidental observation, as well as experiments, have shown that medicines produce very powerful effects on the membrane lining the *trachea* and *bronchial tubes*. For the most part, applications here are made use of for local purposes, as in asthma, chronic bronchitis, phthisis, &c., though occasionally to affect the brain, the blood, the heart, &c. Dr. Myddleton has advocated the inhalation of substances (as cinchona, sulphate of iron, myrrh, &c.) reduced to an inpalpable powder, in pulmonary diseases. The fumes (*suffitus*) of tar, balsam, resins, and other burning bodies, have also been employed in these cases. Sir Alexander Crichton has strongly recommended tar vapour; the method of using which is the following:—The tar employed should be that used in the cordage of ships; to every pound of which half an ounce of subcarbonate of potass must be added, in order to neutralize the pyroligneous acid generally found mixed with the tar, the presence of which will necessarily excite coughing. The tar thus prepared is to be placed in a suitable vessel over a lamp, and to be kept slowly boiling in the chamber during the night as well as the day. The vessel, however, ought to be cleansed and replenished every twenty-four hours, otherwise the residuum may be burned and decomposed,—a circumstance which will occasion increased cough and oppression on the chest.

The inhalation of aqueous vapour (*halitus*), either alone or with other substances, is oftentimes useful in various affections of the lungs and of the throat, &c. The apparatus for this purpose may be that proposed by Dr. Gairdner in the nineteenth volume of the Edinburgh Medical and Surgical Journal; or Dr. Mudge's inhaler; or in the absence of these, a teapot, or basin with an inverted funnel. In many asthmatic cases the difficulty of breathing is so great, that the patient cannot close the mouth around the tube, especially if the latter be small, without exciting a sense of impending suffocation. In such instances I have found the only easy and practicable method of enabling the patient to inhale aqueous vapour, is by holding the mouth over hot water contained in a basin or tea cup. Various narcotic and emollient herbs are sometimes added to the water, but I suspect without contributing in any way to its efficacy. The vapour of hot vinegar, of sulphuric æther, of iodine, of camphor, and of other volatile bodies is occasionally employed in pulmonary diseases. The vapour of iodine may be conveniently inhaled by means of a double-necked glass bottle (fig. 21), into which we introduce about an inch of water, to which a few drops of the tincture of iodine have been added. Through one of the necks a straight glass tube passes, and dips under the surface of the water. The other neck has a short curved glass tube passing through it, by which the patient inhales. In the absence of a double necked bottle we may use a common wide-mouthed bottle (fig. 22), the cork

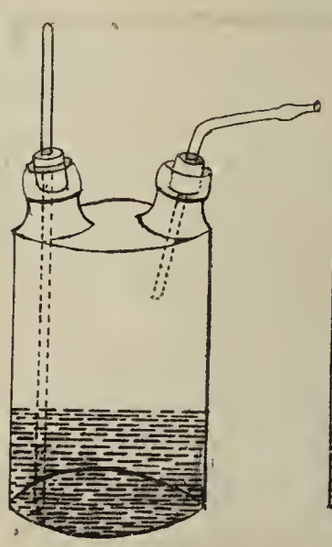

Fig. 21.

Fig. 22.

of which has two perforations, through which pass the glass tubes. Chlorine gas may be inhaled in a similar manner, using a solution of the gas, or of chloride of lime, instead of the tincture of iodine. If oxygen, or nitrous oxide, be inhaled, the most easy and convenient mode of effecting it is from a bladder; but for other and more complete, though more costly methods, I must refer you to the works of the late Dr. Beddoes, and of the celebrated engineer, Mr. James Watt.

6. GASTRO-INTESTINAL MEMBRANE.—We can employ both extremities of the *alimentary canal* for the exhibition of medicines; the upper, however, more frequently than the lower. This mode of employing medicines is called the *method by ingestion*. Of all parts of the body the gastro-intestinal surface is the most useful for the application of medicines. We presume that this arises from the great susceptibility, the active absorbing power, and the numerous relations, mechanical, functional, and sympathetic, which the stomach has with almost every part of the body. In many cases remote effects are more easily produced by this than by any other organ, as in the case of diffusible stimulants, and other agents which operate by sympathy. Medicines which act by absorption are more energetic when applied to some other parts, as the serous membranes, the bronchial membrane, the cellular tissue, &c. In some

cases it is not only possible, but probable, that the stomach may digest, either partially or wholly, a medicine, and thus contribute to diminish the medicinal effect.

7. RECTO-COLIC MEMBRANE.—Sometimes, though less frequently than the stomach, the *rectum* is employed for the application of medicines. It has been asserted that the general susceptibility of the rectum is only one-fifth of that of the stomach, and that medicines take five times as long to operate by the former as by the latter: hence it has been said that both the dose, and the interval between the doses, should be five times as great as when applied to the stomach. But this assertion is far from being correct universally, though it may be so occasionally. Orfila asserts that those agents operating by absorption, as opium and tobacco, are more active by the rectum than by the stomach; and he assigns as a reason the greater venous absorption of the rectum, and its less digestive power. But this statement is in direct opposition to the experience of almost every practitioner. Whenever I have had occasion to employ opium by way of enema, I always exhibit twice or three times the ordinary dose, without exciting any remarkable effects. Dr. Christison states that he has given two measured drachms of laudanum by injection, without producing more than usual somnolency, a quantity which, if Orfila's statement were correct, would probably prove fatal.

We apply medicines to the rectum sometimes with the view of alleviating disease of this or neighbouring organs (as of the uterus, bladder, prostate gland, &c.); at other times in order to irritate the rectum, and on the principle of counter-irritation, to relieve distant parts (as the head); sometimes to produce alvine evacuations, or to dissolve hardened fæces; occasionally, also, when we are precluded from applying our remedies to the stomach, on account of their unpleasant taste and smell, the inability or indisposition of the patient to swallow, or the irritability of the stomach; and, lastly, in order to destroy the small thread-worm (*oxyuris vermicularis*).

When the substances applied to the rectum are solid, we name them *suppositories* (*suppositoria*, from *suppono*, to put under); but when they are of a fluid nature, we denominate them *clysters*, *lavements*, or *enemata*.

Formerly *suppositories* were usually either conical, or cylindrical like a candle, and of variable size,—sometimes one or two inches long. They are now usually made globular, and of small size. They are employed to evacuate the bowels; to irritate the rectum, and thereby to relieve affections of distant organs; but more commonly they are used as local agents in affections of the rectum, bladder, uterus, prostate gland, urethra, &c. I have frequently employed with great advantage a mixture of opium and soap, to prevent priapism during the night, in gonorrhœa.

Clysters or *lavements* require to be considered under several points of view: *first*, in reference to the material of which they are made, and which must vary with the object for which these remedies are employed; *secondly*, with respect to the quantity of liquid used, and which will depend on the age of the patient. The average quantity for an adult is about twelve or sixteen ounces; and I believe that it is rarely proper to use more than this. I am quite sure that the practice of introducing several pints of fluid into the large intestines, with the view of exciting alvine evacuations, is bad. In the first place it often provokes the contraction of the gut, by which the injection is immediately returned; and, secondly, repeated distention diminishes the susceptibility of the part, so that the ordinary accumulation of fæcal matter no longer acts as a sufficient stimulus. Mr. Salmon has related a case of this kind, where the patient had nearly lost all power of relieving the bowels, except by enemata or purgatives, and had produced dilatation of the rectum, in consequence of having been in the habit of introducing two quarts of gruel twice every day into the intestine. A newly-born infant requires about one fluid ounce: a child of one to five years, from three to four ounces; and a youth from ten to fifteen, from six to eight fluid ounces. *Thirdly*, the impulse with which the fluid is thrown up deserves attention. If too much force be used, the sudden dilatation of the gut may bring on, spasmodic action of its lower part, by which the clyster will be returned. *Fourthly*, the instruments by which the injection is effected require notice. The common pipe and bladder are too well known to require description. I am inclined to think that the most convenient, safe, and useful apparatus, is the elastic bottle and tube. Any quantity of liquid, however small, may be thrown up with the greatest ease, and without any danger of the impulse being too great. Its application is exceedingly convenient; a lusty person, by placing one foot on a stool or chair, may easily apply it without assistance; and its price is very moderate. Another form of enema apparatus is a narrow water-proof tube, holding about a pint of liquid, about four feet long, narrower at one end, which is furnished with a common injecting pipe, and about two and a half inches in diameter at the other. The fluid being placed in the tube, the pipe is introduced into the rectum, and the apparatus held in a perpendicular direction, by which the fluid is propelled into the gut by its own gravity. This apparatus, although very simple, appears to me to be less convenient for common use than the elastic bottle, and not to be well adapted for the administration of small quantities of fluids. In the shops are sold syringes of various forms as enema apparatus, but they are more expensive than the common elastic bottle, without possessing any greater advantages or conveniences; indeed, they may become objectionable instruments, since their construction allows the liquid to be thrown up with great force.

Gaseous matters have been sometimes thrown into the rectum. Thus the injection of common air has been proposed in ileus; but I must refer you to the 16th volume of the Edinburgh Medical and Surgical Journal for

further information on this point. Tobacco smoke has sometimes been employed in hernia: it is injected by a peculiarly constructed pair of bellows.

The *Urino-genital* mucous membrane, considered in reference to the application of medicines, includes the membrane lining the urethra and bladder, and that which lines the vagina and uterus.

8. URETHRO-VESICAL MEMBRANE.—Applications to the *urethra* are made only for local purposes; either in a solid form, as caustic or medicated bougies, or in that of a liquid, as an injection: the latter is easily effected by a common syringe. Syringes of various kinds, for this purpose, are sold by Messrs. Maw, of Aldersgate-street.

Injections are sometimes thrown into the *bladder*, but always for local purposes. The operation is easily performed by attaching a catheter to an elastic bottle.

9. VAGINO-UTERINE MEMBRANE.—Medicines are applied to the *vagina* and *uterus* to produce local effects only. Thus injections are thrown in, to relieve vaginal discharges, to excite the catamemia, &c. They are usually liquids; but the following case, told me by my friend Dr. Clutterbuck, proves that gases are sometimes employed. A lady, who had suffered a considerable time from some uterine affection, and had derived no relief from the treatment adopted, was advised to consult Dr. Rossi, an Italyan phisician. After he had examined the condition of the uterus he assured her there was no organic disease, but merely a considerable degree of irritation; for which he proposed to apply carbonic acid, as a sedative agent. This was done by means of a pipe and tube, communicating with a gasometer situated in another room. The patient obtained immediate relief, and although she had been obliged to be carried to the Doctor's house on account of the pain experienced in walking, she left it in perfect ease. On her return to England she had a relapse of the complaint, and applied to Dr. Clutterbuck, to know whether she could have the same remedy applied in London, in order to save her the necessity of returning to Italy.

3dly. MEDICINES APPLIED TO SEROUS MEMBRANES.—Irritating injections, such as wine and water, solutions of metallic salts, &c. are thrown into the cavity of the serous membrane of the testicle in hydrocele, in order to excite inflammation and the subsequent adhesion of the sides of the sac. Injections have also been made into the peritoneal sac in ascites, and in some cases with success. On this subject, however, I must refer you to the Philosophical Transactions for the year 1665.

4thly. MEDICINES ARE APPLIED TO ULCERS, WOUNDS, AND ABSCESSES, principally to excite local effects, and sometimes, though rarely, to produce a constitutional affection. Thus it has been proposed to apply corrosive sublimate to wounds, with the view of causing salivation.

5thly. THE INJECTION OF MEDICINES INTO THE VEINS has been called *infusion of medicines*. The celebrated architect, Sir Christopher Wren, was the first person who undertook experimentally to determine the effects of medicines when thrown into the veins. His example was followed by Boyle, Clarke, Henshaw, Lower, and others. The partisans of this method of treatment asserted, that when medicines are administered by the stomach, their effects are much modified by the digestive process; and, therefore, by injecting our remedies at once into the veins, we avoid this modification of their properties. But this statement is not accurate, since Drs. Christison and Coindet have shown that some substances are decomposed even in the blood, or at least they cannot be recognized in this fluid. Further, they have shown that the effects of medicines thus administered are of the same general nature as when their agents are applied to the skin or stomach; thus, tartar emetic vomits, senna purges, opium stupifies, and so on. There are, on the other hand, several objections to this practice; such as the danger of introducing air into the veins, or of throwing in too large a dose of the remedy (for a slight excess may prove fatal), or of the occurrence of phlebitis. These, then, are sufficient reasons for not resorting to this practice except on very urgent occasions; for example, to excite speedy vomiting when the patient is unable to swallow Köhler preserved the life of a soldier, in whose throat a piece of beef tendon was sticking, by throwing a solution of six grains of tartar emetic into a vein of the arm: vomiting was induced, and the meat expelled. Knoph threw four grains of this substance, dissolved in an ounce and a half of warm water, into the veins of a man choked by a piece of beef: in one minute vomiting came on, and the beef was expelled. A similar case has been reported by Smucker.

In some obstinate and dangerous diseases this operation is sometimes admissible as a last resource; for example, in cases of poisoning, in hydrophobia, in malignant cholera, &c. As plethora appears to diminish absorption, it has been proposed to throw tepid water into the venous system in cases of narcotic poisoning, and thus to cause artificial plethora, in order to prevent the occurrence of the symptoms of poisoning by stopping absorption. Verniere found three grains of nux vomica produced no effect when applied to a wound in a dog into whose veins water had been thrown; and he asserts that by the early use of aqueous injections we may prevent the development of contagious diseases. Magendie has tried the effects of injecting tepid water into the veins in hydrophobia. The operation was first performed at the Hôtel Dieu, at Paris, in October 1823: the convulsions were stopped, but the patient died in a day or two afterwards. This operation has been several times repeated, and with the same results. In June 1832, I tried it on a patient (afflicted with this terrible disease), under the care of Mr. Bennett, of the Commercial Road. The patient was a boy, about

nine years of age ; he was nearly insensible at the time I performed the operation. I threw in about one quart of tepid water, without any obvious effect on the pulse: no convulsions were subsequently observed, but the patient died in a few hours. A solution of salt in water was injected into the veins in the malignant cholera, and often with apparent advantage. Purgatives, narcotics, &c. have been thrown into the veins by different physiologists, and in most cases the effects observed were of the same kind, though varying in degree, as when these substances were taken into the stomach. To this statement, however, the oils are an exception; for when injected into the veins they interrupt the circulation, and produce a kind of asphyxia.

APPLICATION OF GALVANISM.—In the foregoing remarks on the different means of administering medicines, I have not noticed a recent proposal to introduce active medicinal agents (such as quinia and morphia) into the system by the aid of galvanism. *A priori* the idea seems feasible, and worthy of trial. We know that a variety of substances can be readily passed through animal membrane by means of the electrical agent; for example if you place a solution of iodide of potassium in a glass tube (fig. 23), the bottom of which

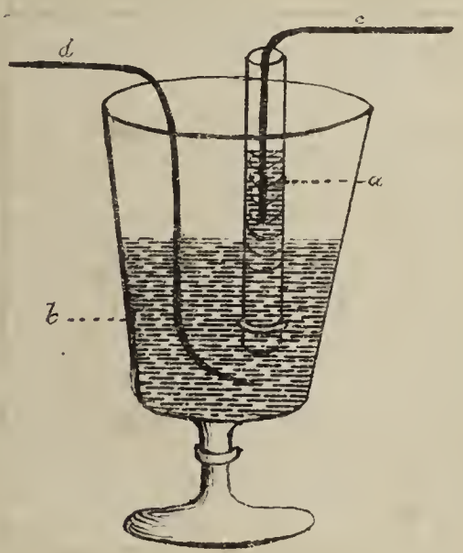

Fig. 23.

is closed by a piece of bladder ; then immerse this tube in water (or rather a solution of common salt), containing some starch (letter *b*), and connect the solution of the iodide with the negative electrode, or pole (*c*), of a galvanic battery of fifty or one hundred pairs of plates, and the starch liquid with the positive electrode, or pole (*d*), you will observe in a few seconds that the starch is rendered blue by its combination with iodine, showing that this substance must have passed through the bladder to have come in contact with the starch. On examination not the least trace of perforation can be seen in this membrane. Now if we could on this principle introduce medicines into the system, or into tumors, it would be a considerable practical improvement of our profession. In bronchocele we should have an easy method of conveying iodine into the swelling; in constipation a pleasant method of acting on the bowels. I throw out this hint for such of you as may feel disposed to follow up so interesting an inquiry.

ON THE

EFFICACY OF ICE IN DYSPEPTIC DISORDERS.

To the Editor of the Medical Gazette.

Sir,—I am not conscious that any medical writer has noticed the use of ice and iced liquids in the treatment of stomach derangements. If not, you will perhaps give publicity to the following communication, the object of which is to propose another remedy for that distressing and widely-spread class of disorders, at once the offspring and the bane of highly-civilized and luxurious states of society. My attention, I confess, was first called to this subject by a lady, who, when in Italy, had derived great benefit from eating ice in a dyspeptic attack under which she then laboured. I had also very often remarked, as well as personally experienced, the refreshing influence of ice in languid states of the stomach, restoring the palled appetite, and reinvigorating the whole frame.

It occurred to me, besides, that I had not unfrequently seen persons of very delicate digestions, who durst not venture on a spoonful of cream at ordinary temperatures, eat of it largely in a frozen state, not only with impunity, but to the manifest advantage of their health. In regard to wine, also, it is notorious that the enfeebled stomach will endure much larger draughts of this intoxicating drink, without inconvenience, when it has previously undergone the process of icing.

Reflecting on these facts, it appeared to me highly probable that extreme cold, immediately applied to the secreting surface of the stomach, would be found a remedial agent of great value in the various affections of this sensitive and sympathizing organ. Without delay, therefore, I prescribed the ice freely in such gastric derangements as chanced to fall in my way, and quickly discovered that I had not formed an undue estimate of its powers. Relief almost immediate was the consequence in many cases of mere functional disturbance ; and in those of a more fixed and structural character, it evinced a marked superiority over all other remedies in controlling the most distressing and refractory symptoms. To this practice, as opportunity offered, I have now adhered for years past; and so favourable has been the general result, that I feel more than ever anxious to recommend it to the consideration of my professional brethren.

I will not occupy your pages, sir, with a tedious recital of the numerous cases in which my confidence in the remedy here proposed is grounded, choosing rather, on the best authority, to illustrate my conclusion by an in-

stance or two of general application*; and the first instance I shall adduce happened to a lady of delicate constitution, who had repeatedly suffered from functional derangements of stomach. On these occasions she experienced the usual symptoms of dyspepsia severely, attended semetimes by palpitations of the heart, and not without evidence of spinal irritation. Her recovery from such attacks was usually very slow under ordinary treatment. I therefore thought it advisable she should make trial of the (so to call it) "*refrigerant method.*" The ice was freely administered; the lady obtained almost immediate relief, and her recovery was rapid beyoud all former example. Several times since she has resorted to the same plan with equal success; and now, by a timely application to it, she is enabled to ward off the severity of these attacks altogether.

The next and the only other instance to which I shall at present allude, occurred in a gentleman of the military profession, whose digestion had become impaired by long residence in hot and unhealthy climates, and which, continuing for some time after his return to England, at length terminated in a fixed structural affection of the stomach. Besides other formidable symptoms, there was settled pain in epigastrio, increased on pressure, and especially on taking food, which was commonly returned almost as soon as swallowed, and along with it large quantities of thick, heavy, mucus. Of these matters, however, the stomach was wont to dispossess itself, not by the usual mode of retching and vomiting, but by a process of eructation or rumination. Continuing in this state some time, the body became weak and emaciated, and my advice was requested. I had the good fortune to allay, in some measure, the pain and irritability of stomach by the free application of leeches and blisters, followed up by anodyne and effervescent medicines; but the advantage was only transient. In a few days these distressing symptoms returned with redoubled violence, insomuch that the stomach would now literally retain nothing, the mucous discharge being at the same time more troublesome and copious than ever, and occasionally a little tinged with blood. At this difficult juncture I could think of no alternative but the refrigerant plan, as I have already called it. I therefore ordered a plentiful supply of iced milk. The patient ate it with avidity. It sat comfortably on his stomach, abating the pain and suspending the mucous discharges almost wholly during the short remainder of my attendance. This case, I need scarcely add, in the end proved fatal; and my only object in citing it, is to shew the extraordinary control of intense cold over some of the most intractable symptoms of gastric disorder. In thus extolling its efficacy, however, I beg to disclaim all intention of pronouncing it infallible, being persuaded that nothing can so effectually overthrow the reputation of any novel and untried remedy as the proclaiming it a panacea. Some instances, I doubt not, there are (perhaps many), in which it will prove unavailing; and others, as gout, &c. in which it might justly be deemed inexpedient, and even dangerous. Nevertheless, I confidently look to the experience of others for the confirmation of what I have myself deduced from pretty extensive observation, viz. *that intense cold, as applied to the secreting surface of the stomach, will generally be found a remedy of great value and avail in the disorders of that all-important organ.*

Leaving it, however, to time to establish or refute this opinion, it shall be my object, in the meanwhile, to inquire how far it is sanctioned by an appeal to acknowledged truths and rational principles. And in order to this, I shall advert to the well-known operation of cold on the surface of the body, —how it causes it to wrinkle and contract, and its blood-vessels to vanish from the sight. Often, indeed, does this cutaneous constriction proceed to the length of occasioning dangerous terminations to internal organs. Witness that almost endless catalogue of fevers and inflammations, whose common origin is exposure to cold. Again, in head affections that proceed from inordinate afflux of blood to that part, of what powerful avail are intensely cold applications! Then, as to internal surfaces, every one knows how effectual they are in restraining hæmorrhages, and in checking and resolving congestion and inflammation in various portions of the mucous system. With such analogies before us, is it not highly probable that the stomach also would, if similarly affected, experience similar benefit? And that it is, in the generality of its disorders, similarly affected,—that is, more or less in an irritative, congestive, or inflammatory condition, I gather from the pain and uneasiness so commonly felt in epigastrio in such cases, as well as from the known efficacy of topical evacuants in the removal of these symptoms. Other evidences there are to the same purport: but for the sake of argument, we will assume the truth of this opinion. We will suppose that in gastric diseases generally there is more or less of engorgement of the innumerable capillaries distributed to the interior of the great digestive organ. Ought we not to expect, as the necessary consequence of such a state, a proportional degree of pain or uneasiness in the epigastric region? Might we not also reasonably look for such an increase of sensibility in the part as would render the accustomed stimulus of alimentary matter almost intolerable? And would not this congestion or inflamed condition of the secreting surface cause it, after the example of other mucous surfaces (as in catarrh, dysentery, and the like) to pour forth its peculiar product in greater abundance, and so vitiated in quality as to create disturbances in the very

* "Unum adhuc restat de quo monendus est lector, mihi in animo non esse, sequentes paginas infinito particularium observationum numero distendere, quibus methodo ibidem traditæ fidem adstruam: frustrà enim, et cum tædio lectoris, repeterentur ista singulatim, quæ in summas contraxi. Satis autem habui, ad calcem observationis cujuslibet generalis, particularem hic illic adnectere, qua methodi præcedentis medulla contineretur."—*Vide Sydenham, Præfat. v. finem.*

function which nature has assigned for its performance? Collect, then, these consequences; and is there any thing wanting to make a good general definition of gastric disorders? Assume the symptoms, and the engorgement plainly follows; admit the engorgement, and the symptoms are fairly deducible. Thus do these opposite hypotheses mutually serve to confirm and verify each other; and thus does it plainly appear, from an appeal to reason as well as fact, that, in the general run of affections of the stomach, the capillaries of that organ are in a greater or less degree of plethora and over-distention. This, perhaps, is their principal feature; and it is, I presume, only to be explained on the supposition of diminished tone or resistance in their coats, by virtue of which, blood, urged on by the ordinary force of circulation, rushes into them in undue proportion*. And, to ascend another link in the chain of causes, we cannot doubt but that this and every other instance of relaxation in capillary blood-vessels, must be referred to some impression previously made on the nerves with which they are in connexion, and under whose control they are, by the hand of nature, placed. Mysterious, indeed, is the process by which this physical change is effected, and so, perhaps, it will ever remain. To speculate about it, therefore, in the present state of our knowledge, would be but idle and unprofitable. †

But the fact itself is of unquestionable importance; for if that be admitted, the operation and efficacy of cold, in gastric diseases, is most obvious; there being no known remedy of greater power in restoring relaxed and weakened vessels to their proper tone and resistance.

Whether, therefore, we resort to analogical or hypothetical argument, or trust to the more sure guidance of experience and observation, still we arrive at the same conclusion. By the concurrence of every kind of proof of which the nature of the subject will admit, are we warranted in repeating our conviction, that ice and iced liquids will be found among the most valuable remedies for stomach complaints in general, whether functional or general.

It only remains that I thank you, sir, for the insertion of this communication in your excellent periodical, whose merits, as a record of authentic facts and useful information, are too well known and appreciated to need the commendation of your obliged correspondent,

F. Bailey, M. D.

Reading, Oct. 1835.—*Med. Gaz.*

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* On this point I beg to be a little more explicit. Some years ago I inserted a paper in the Medical Repository, in which I endeavoured to shew (on the authority of Parry's experiments) that there reside in blood-vessels generally two opposing powers; the one, *elastic*, tending to increase, and the other *tonic* or *vital*, tending to diminish their capacity; and that, by a certain adjustment of these forces, the natural calibre or dimensions of such vessels would be determined. Supposing, therefore, the elastic property to remain invariable (which may in the present instance be fairly done), it is obvious, that whatever change should happen to any vessels in respect of its diameter or magnitude, must be the result of its vital contractility, or, in the language of Parry, its tonicity. That being *diminished*, the elastic power of the vessel would preponderate, and conspire with the *vis-a-tergo* to give it an augmented volume; in other words, to determine blood more freely into it. If, on the contrary, the vital contractility were to *increase* above its natural standard, it would prevail over its antagonist elasticity: and thereby lessen the size of the vessels and the quantity of its contents. It is to the former of these states, however, to which we here principally refer; it being that condition which we conceive to be essential to the existence of a great majority of diseases, and whose removal constitutes the cure.

† It may not, however, be amiss to notice the instantaneous manner in which this effect is sometimes produced. At the bidding of a moral impression, the cheek instantaneously becomes suffused, and its innumerable capillaries relaxed and overgorged with blood. Something analogous to this happens, I presume, to the stomach, whenever food enters it; especially if excessive, stimulant, or indigestible. If, then, to the injuries which this important organ is continually liable from these causes, we superadd such other as are of a mental, moral, or physical nature, how can it but be that the minute vessels of its interior lining should in the end become weakened and overloaded, and thus prove the fertile source of dyspeptic disorders, at which we have already hinted?

ST. BARTHOLOMEW'S HOSPITAL.

Fibrous Tumor connected with the lower Jaw—Removal of the left half of the Jaw.

The operation of removing the left half of the lower jaw was performed by Mr. Stanley, on Saturday, the 10th instant. The following is a report of the case at the time of admission.

A. B., a girl aged 15. She states that the disease has been twelve months in progress, and that it has not been attended with pain, or disturbance of the general health. A tumor now occupies the whole of the left side of the jaw, from the angle to within half an inch of the symphysis. The length of the tumor, therefore, corresponds with this extent of the jaw, and in its broadest part it measures a full inch and a half. The tumor is but little apparent on the outside of the face; its principal growth having taken place towards the cavity of the mouth: it is smooth, and does not yield to the firmest pressure; its upper surface is slightly ulcerated. The absorbent glands and other parts in its neighbourhood are healthy. In an early stage of the disease, with the idea that the tumor contained fluid, a lancet was plunged into it; this was followed

by a considerable flow of blood, but had no other effect. With the gradual increase of the tumor, the fangs of the teeth were successively imbedded in it. Mr. Stanley had removed several of these loosened teeth and by introducing a probe into the centre of the tumor, had ascertained it to be a growth from the cancellous texture of the jaw. Before the admission of the patient into the hospital, Mr. Stanley had tried iodine freely for a fortnight, both as a local application and internally, but it had no influence upon the disease, which was still slowly increasing, and accordingly its removal was undertaken.

An incision commencing an inch in front of the extremity of the lobulus of the ear was continued in a semicircular line downwards and forwards over the base of the jaw, and then upwards upon the chin to within about an inch of the orifice of the mouth. The division of the cheek was followed by the detachment of all the contiguous parts from the tumor, and by the exposure of the jaw beyond it sufficiently to permit the division of the sound part of the bone. With a small saw a groove was made in the jaw close to the symphysis, and with the large cutting forceps the division of the bone was here completed. With the forceps alone the division of the ramus of the jaw was easily effected a little above the angle; it now only remained to divide the mucous membrane of the mouth where it was continued upon the inner side of the tumor. Very little hæmorrhage had occurred, only two arteries requiring to be tied, the facial and one of its branches. The divided surfaces of the cheek were retained in contact by hare-lip pins and fine silk ligatures. Scarcely any constitutional derangement followed the operation. The whole tract of the wound united by the first intention; and on the eighth day the patient, in good health, had left her bed, and was moving about the ward. The cicatrix being a mere line, occasions but the slightest disfigurement of the face. There is no falling inwards of the cheek. The articulation is perfect, and already the muscles can act upon the remaining half of the jaw with so much force, that with a little more use of the parts, she will be able to masticate the firmest substances.

Upon examination, the tumor was found to have originated in the cancellous texture of the jaw, and in its progress, to have caused, first the expansion and then the partial absorption of the walls of the bone, some portions of which still contribute to form the boundaries of the tumor. The section of the tumor shewed that it consisted throughout of a dense greyish substance, irregularly intersected by white lines. In its colour and texture, this specimen of morbid growth from the jaw closely resembles the common fibrous tumor of the uterus.

Mr. Stanley stated that every circumstance in the history of the disease indicates that it is not of a malignant nature.

PRACTICAL OBSERVATIONS ON THE NATURE AND TREATMENT OF NERVOUS DISEASES; WITH REMARKS ON THE EFFICACY OF STRYCHNINE IN THE MORE OBSTINATE CASES.

By Geo. Russell Mart, M.R.C.S.

Octavo, pp. 185. *Churchill, London, Aug.* 1835.

Mr. Mart, who is a practical and observant surgeon of this metropolis, informs us that the object of the work is twofold—first, to detail the different diagnostic symptoms which mark the rise and progress of palsy, amaurotic blindness, nervous indigestion, tic douloureux, and neuralgia—and secondly, to demonstrate the complicated nature of these diseases, shewing that they are frequently dependent on the state of the blood, and on general constitutional disorder. Hence the necessity of general remedies, as well as local. The chief portion of new matter, however, in this work, consists of numerous cases of chronic, and usually incurable diseases, treated by strychnine—a remedy not yet in extensive employment, nor sufficiently ascertained as to its remedial agency. The volume contains four chapters—the first of which is on—

Paralytic diseases.

After some general remarks on the ignorance of the ancients, and the discoveries of the moderns respecting the pathology of palsy, Mr. M. informs us that he has been in the habit of prescribing strychnine for some years, in the chronic forms of the malady in question, and assures us that it is a remedy of great power and utility. We shall advert to a few of the cases in each chapter, abbreviating them in most instances.

Case 1. Mr. Wyatt, King Street, Soho, had paralysis of the right side including the muscles of the face and tongue. He had rather a fatuous look. The paralytic affection had commenced three years previously, and various remedies had been tried in vain. One-sixteenth of a grain of strychnine was first prescribed, thrice a-day. After two days, the dose was increased to an eighth—and afterwards gradually augmented to a third of a grain. In ten days, some slight twitchings about the face were remarked, and they soon extended to the arm and leg. They increased even to annoyance. At the end of three weeks, he had more power in his arms and could stand on his legs. By the fifth week, he could walk, with assistance, about the apartment. The strychnine was continued, in doses of half a grain in the 24 hours. The expression of the countenance altered, from silliness to archness, and, at the expiration of seven weeks, he walked without assistance. In four months, he was able to resume his usual avocations. This was in the end of 1829 and beginning of 1830. In July, 1832, Mr. Wyatt was seized with apoplexy, from which he narrowly escaped. It was followed by paralysis of the right side. The use of the limb, however, returned in four months,

so that he was able to walk to town—a distance of three miles from the Edgeware Road, where he now resides. He is apparently in good health, and can take considerable exercise. He used the strychnine for the secondary paralysis.

Case 2. The patient was Thomas Fryer, placed under Mr. Mart's care by Viscount Gage. His age was 34, of full temperament, muscular and plethoric. For four years, he had little use of his left leg, and still less of the corresponding arm. His sight was materially affected. The case was aggravated by epileptic seizures, occurring at intervals of ten, fourteen, or 21 days. After some aperient medicine, the strychnine, in doses of an eighth of a grain twice a-day was administered—the quantity being gradually increased to a quarter of a grain ter die, when shaking fits were complained of in the paralyzed parts. After two months of this treatment, an attack of epilepsy interrupted the medicine for a few days, when it was resumed, and continued for several months (with epileptic interruptions.)

"The result of this treatment was, that in two months he could walk a distance of half a mile, and the palsied arm acquired strength. After four months he was able to employ himself in French polishing, and in manufacturing light pieces of cabinet-work.

The fits of epilepsy returned at longer intervals of time, and abated much in severity; ultimately they dwindled to peculiar and rather painful sensations in the leg, such as usually are denominated premonitory symptoms of epilepsy.

Fryer now walks to various parts of the town, carries home his work, and when fully employed can maintain his family in a comfortable manner." 16.

Several other cases of hemiplegia are detailed by Mr. Mart; but the above are sufficient specimens.

Paraplegia.

The cause of this severe malady is sometimes in the head, though more frequently in the spinal marrow. The following extract will shew that Mr. Mart is an attentive observer of morbid phenomena.

"The symptoms of this form of palsy are as variable as the causes. With some, the disease commences with slight occasional pains, referable to a part of the hip, thigh, or leg, and frequently behind the protuberance at the head of the high-bone. Pain is not always present; fatigue frequently induces it, and rest relieves. Weakness and pain now manifest themselves in the muscles at the lower part of the back, or in various parts of the legs. The sensation of a cord tied round the calf of the leg is a common symptom. At times the patient cannot walk, or even stand erect, without a paroxysm of pain following, which compels him to assume a recumbent position, as the only mode of obtaining partial relief. Locomotion is performed with difficulty, the legs threaten to give way, and bend under the patient at every step.

An additional support is now required in moving about, as crutches, or a stick. As the malady increases, an occasional involuntary discharge of urine takes place, and incontinence of the lower bowels ensues. Sometimes, on the contrary, the greatest difficulty prevails in invoking the natural action of the bowels, and various domestic instruments are had recourse to, with very little avail.

After an interval of months or years, the legs become incapable of carrying the body beyond a few yards, and sometimes the erect position cannot be maintained while sitting, the power of moving the legs may remain, and sensation be unaffected. Generally a wasting of the paralysed limb is apparent, while sensation may be morbidly increased.

On sudden and rapid changes of weather, the patient is attacked with painful *neuralgic* twitches, resembling those of Tic Douloureux.

There is a peculiarity in the walk of these patients. The first press on the heels, and the toes waver, turning inwards or outwards. They straddle or bow their legs to obtain footing. Patients live in this state an indefinite period." 34.

Case 3. Thomas Linton had been two years in the Racoon Hospital-ship (Portsmouth Harbour), before Mr. Mart's appointment to that ship. He was tall, thin, and sallow—very intelligent. He had not quitted his bed for 20 months, except when carried on deck for fresh air. The cause of the paraplegia was a blow on the loins by a fragment of stone. The symptoms were slight at the time; but afterwards a sense of numbness extended along the high, with a feeling as if strings were tied round the legs. These symptoms increased, and, in three weeks, he was deprived of power in the legs, and unable to stand. Various means had been tried, but without any good effect.

"The treatment was commenced by administering some blue-pill, and doses of purgative medicines; the state of the secretions required previous treatment. Afterwards, one-eighth of a grain of strychnine was ordered in the form of a pill twice a-day, and a dose of a mixture containing *diluted sulphuric acid* taken at the same time. On the second day the pill was repeated three times, and the strychnine was gradually increased to a grain in twenty-four hours. When the treatment had been continued a month, no amendment occurred; but about this time, a blister was applied over the part where the blow was received. On removal of the skin, one-quarter of a grain of strychnine was applied twice a day. The blister was dressed daily in this manner till it healed, when another was applied in the vicinity, which was dressed with half a grain of strychnine, sprinkled over the denuded surface twice a-day, and also administered internally in pills, containing a quarter of a grain, four times a day. Six weeks from the commencement, the patient began to improve; convulsive jerks were felt in the legs, and a sense of pricking and other odd sensations were experienced: the toes

would move involuntarily. An erect posture had been attained several days; the patient sat in a chair, and moved the legs in every direction. He continued to improve in various degrees; but the amendment was always more rapid after blistering. This treatment was continued four months, when he was so far recovered as to be discharged from the Hospital Ship, and had light work assigned him. Finally the cure became perfect, and he performed the duties of an able-bodied man." 37.

Case 4. This was a medical gentleman, Mr. Martindale, who became paraplegiac on his voyage home from India. The strychnine was proposed, but he was persuaded to try the air of Wales for a few months. This made little or no improvement in the paralytic complaint, and, on his return to London, he complied with Mr. Mart's prescriptions. He began by taking an eighth of a grain of strychnine thrice a day, gradually increasing the dose. In the course of two months, he walked without support; and his bowels, which had been very irregular, assumed their natural action.

Case 5. This case being short, we shall give it in the words of the author.

"In the year 1832, the daughter of an officer in the army, residing at 25, Arundel Street, came under treatment. This lady, in 1829, complained of a heavy, dull pain at the back of the neck, sometimes approaching to the front. When the pain was momentarily increased, she was obliged to grasp her neck with both hands. Difficulty of swallowing at times was felt, when pain extended to the muscles and parts of the chest, and about the shoulders. These were ascribed to rheumatism. The tips of the fingers felt benumbed, and she experienced considerable annoyance from the state of her bowels, and the irregularity of the monthly indispositions. The toes were affected with numbness, and the joints of the lower extremities were stiff and painful. Subsequently, the loss of motion increased, and the power of walking and standing was destroyed. When the treatment commenced, the legs were emaciated, and the muscles soft and flabby. The expulsion of fæces and urine was attended with difficulty. Large patches of inflammation, threatening to produce sloughing ulcers, were apparent on the upper and posterior parts of the thighs. For three months, strychnine pills were administered. The constitution being delicate and much shattered, only one-twelfth part of a grain was first ordered to be given night and morning, and afterwards three times a-day. This was increased to one-eighth of a grain, the greatest dose administered in this case. Five small blisters were applied to the loins during the treatment, and one quarter of a grain of strychnine used twice a-day, while the blistered surface was in a condition for its absorption. At the end of the treatment the patient could stand, and, with assistance, shuffle the feet along the floor. Quinine pills were now ordered, and continued for a month.

The improvement was slow; twelve months elapsed before she could walk abroad; the legs had recovered their former plumpness, and the constitution much of its original vigour." 41.

Mr. Mart next adverts to the paralysis agitans, or shaking palsy—a peculiar disease, and which we have found, contrary to Mr. Mart's experience, to be a most obstinate, and generally incurable disease. We were, therefore, a little surprised to read the following paragraph, at page 44 of the work. "This disease does not usually produce derangement of the general health; and patients sometimes live to an old age or die of other complaints." "The strychnine is remarkably efficacious in nearly all cases of 'SHAKING *Palsy*.' We shall extract the only case that is given by Mr. Mart, "from *numerous* cases in the author's note-book"—a statement that also surprises us, since a long, and not very limited, experience has not furnished us with more than half a dozen instances of unequivocal paralysis agitans. We have never seen recovery in any one case.

Case 6. "Miss C—k, aged 18, residing at a school in Woolwich, was observed, when about 14 years of age, to draw up her feet quickly and suddenly in walking; she complained of numbness in her fingers, and could not use a needle; the fingers and thumbs of both arms began to move involuntarily, attended with spasmodic twitches of the muscles; the legs, about the same time, were affected with similar agitations. Her gait was unsteady. She was able to project her legs, but in no other way could control them. The head was affected by spasmodic movements, being sometimes tossed disdainfully backwards, or on either side.

This young lady had the best advice, and, in the early stage of the disease, was properly treated. On the malady degenerating into a chronic type, her friends considered it was useless to make further attempts to procure relief, as no remedy appeared to be of service.

When first seen by the author, the limbs were agitated as she sat in a chair, and when desired to walk to a particular part of the room, it became a matter of doubt if an opposite direction was not about to be taken, or one to the right or left; in short, she proceeded in a zig-zag way. Her health was tolerably good; no deformity was present; her stature was of the middle height, but her person was rather thin. The treatment was continued eleven weeks, commencing the strychnine with one-twelfth of a grain, increased to one-eighth of a grain three times a-day in the form of a pill. At intervals blisters were applied, and the spine rubbed with strychnine, dissolved in spirit, after the prescription of Mr. Majendie.

The symptoms finally yielded to the efficacy of the remedy, and her constitution improved in strength. When her feelings are affected by circumstances not of an ordinary nature, the limbs tremble, and the fingers move, but these symptoms pass off on recovering herself." 46.

We think we may confidently affirm that the foregoing case was *not* one of shaking palsy, but of CHOREA. And this mistake will account for the numerous cases of the disease which Mr. Mart has entered in his note-book.

The candid manner, however, in which Mr. M. has stated the symptoms, absolves him from all intention to deceive his brethren. If authors were thus to act, the science of medicine would not be blotted so often by " false facts" as it long has been!

Amaurosis.

In this disease, too often found incurable, " strychnine has been highly beneficial in the hands of the author."

" At the onset of this malady some constitutional symptoms generally are present, such as derangement of the digestive organs, torpidity of the liver, and pains about the front of the head: sometimes indeed symptoms referable to palsy, come on at distant parts of the body; transient flushes of the face occur, and patients are assailed with fanciful sounds, as buzzing noises, and the dropping of water; or alarming sensations are created by the forcible pulsation of the internal vessels of the neck and head. Among the primary symptoms of impaired vision, are the appearances of insects, cobwebs, or a piece of gauze appended between the affected eyes, and the object viewed; these observations increase in magnitude and become more opaque. Sometimes the failure of vision is only occasional, recurring at longer or shorter intervals.

Zones of bright light appear to surround objects, and flames of candles or lamps assume every position but the real one. Rays of light flit about the eyes, scintillations verge out in every direction, or yellow sparks pass across at every turn of the orbit, occasionally becoming vivid or forked like lightning. "53.

Five cases are detailed by Mr. Mart. We shall briefly notice some of them.

Case 7. Mr. W., a stockbroker, had suffered several years from defects of vision. " At first he became unable to read by candle-light, afterwards he had pain at the bottom of the orbit, while the external parts of the eyes were tender and irritable, and when pressed, however gently, pain was produced; he had a dull pain in the forehead, generally aggravated at night, and there were frequently involuntary movements of the eyelids. He saw best at noon-day in the sun, or in a room brilliantly illuminated. He transacted all business in which a pen was required as expeditiously as possible, for whenever the eyes were employed, especially while writing, uneasy sensations invariably occurred." When the treatment was commenced he wrote in large characters, and he could not recognize the features of a person at the distance of three yards. The pupils were generally dilated. Strychnine was given night and morning, in doses of a tenth of a grain. Small blisters were applied over the eye-brows, and dressed twice a-day with a quarter of a grain of strychnine. This treatment was continued seven weeks. The patient was very irritable, and would not continue the blisters. A spirituous solution of the strychnine was therefore applied to the neighbourhood of the eyes for four weeks. In the course of a fortnight candle light ceased to produce pain, and the power of vision was improved. He did not, however, completely recover.

Case. 8. Fryer (Case 2, already noticed) had amaurotic blindness of both eyes. " When in a room he could only distinguish the aperture through which the light entered. He knew no one by sight," nor could he distinguish a male from a female by their dress in the streets. This state of vision followed a severe attack of apoplexy occurring subsequently to the paralysis before described. He had epileptic fits every month. He was under treatment for eight months, and was twelve times blistered about the outer angle of the eyes and over the eye-brows. The restoration of vision was very gradual. Many weeks elapsed before the slightest improvement took place. When last examined he detected a fly creeping on the window. His vision was always deteriorated previous to an attack of epilepsy. These fits have now disappeared, and the sight continued to improve long after the treatment was left off.

Case 9. Mr. D. residing in the New Road, had been afflicted with amaurotic blindness many years. The deprivation was sudden, and both eyes were affected. " The patient can scarcely distinguish the outlines of a human form, and requires a strong light even to perceive a white object on a dark ground." He has difficulty in standing or walking at times. " During these attacks of nervous debility in the lower extremities, and whenever great atmospherical vicissitudes occurred, he was seized by neuralgic pains at various parts, frequently preventing sleep at night, and causing much disquietude through the day."

The principal seats of pain were the legs and arms. This patient had been seen and treated by some of the most eminent medical practitioners. The strychnine was employed for three months, internally and externally, together with blisters. The result was decided benefit—so that the patient could walk round the Regent's Park. It is curious that, one day during dinner, the sight became almost perfect; but soon deteriorated, and has since remained so. Two or three other cases are related; but we cannot afford space for their details here.

Chap. II.—Nervous Indigestion.

This chapter is not susceptible of analysis, though it evinces considerable powers of observation in the author. We confess that it is the least satisfactory chapter in the work. The following passage will serve to explain this.

" Nervous affections of the stomach, and of other parts of the system, are often subdued by a well-directed course of medicines; but sometimes they resist every mode of treatment, and it is in such instances that strychnine should be administered.

This remedy, however, will not always succeed in eradicating the malady. The difficulty in some instances of removing the causes of nervous disorders has frequently prevented the strychnine from affording more than partial relief. When the causes were as active as at the commencement of the disease, no benefit has accrued." 101.

The third Chapter is on—

Tic Douloureux.

This is a disease of modern recognizance, though, probably, it has existed time immemorial. Fothergill, in 1766, gave the first description of it, and our continental neighbours, since that period, investigated its nature and causes with more zeal than success. Its etiology and pathology are indeed involved in *impenetrated*, if not *impenetrable* obscurity!

"The attention of the medical profession has lately been directed to the production of this disease by the growth of bony particles within the head, operating through the medium of the brain. Although these and similar causes are always present, yet the pain is generally of an intermittent character. The same obtains in other nervous diseases, as has been fully demonstrated in the results of dissections of persons whose brains were penetrated by points of bone growing from the internal surface of the bones of the head, but who during life had *periodical* head-aches, or epileptic seizures.

Upon a more extended view of the subject, of its origin, and its primary seat, the probability is, that the source of irritation is more frequently in a portion of the brain; sometimes in those portions from which the nerves of the face have their immediate origin,—and sometimes at the roots of the nerves themselves. That the seat of the disease is not often in the sentient extremities of the nerves which are distributed over those parts of the face where pain is experienced, may be clearly inferred by the failure of ordinary and external means of obtaining relief, even including the operation of dividing the nerves." 108.

Mr. Mart thinks, and probably with reason, that the disease consists more frequently in functional *disorder* than in any cognizable *disease* of structure in the parts affected—or may be sympathetic of disease, or even disorder, in a distant part. Hence it is, that medicines directed to the constitution generally, are more beneficial than local applications. Mr. Mart has found strychnine very useful in this painful malady. He has frequently found the blood of patients labouring under neuralgia to be *buffy*, and he seems inclined to connect a diseased condition of the blood with tic douloureux. We shall now glance at one or two of the cases.

Case 10. A young officer had been exposed to wet, and suffered from what was considered to be rheumatism of the face for several weeks. The pain remitted in the night. The extraction of a molaris relieved him for three or four months. But in the succeeding Autumn the paroxysms of pain became almost insupportable, and he had been the victim of intense suffering. In this condition he applied to Mr. Mart. The principal seat of the pain was now the left side of the upper jaw, extending to the nose, corner of the eye, and forehead. The upper lip and front teeth were also affected. The gums were red, swollen, painful, and spongy. The general health appeared good. The gums were freely scarified, and it was found that some portions of the sockets were denuded.

"The patient was directed to apply daily two small leeches to the gums of the upper jaw. After six applications the symptoms were palliated, the attacks diminished in intensity, and the remissions between the paroxysms were longer. He continued thus improving for twenty days, when the disease became stationary. The pain being now more obtuse, the cheek could be pressed with impunity. The side of the face was rubbed with a spirituous solution of strychnine, (one grain and a quarter being used at each application), three times a day. A sense of heat and tingling was felt in the skin. The attacks gradually lessened, and after persisting in the external use of the remedy seven weeks, the patient found himself free of every uneasy sensation. Three months afterwards the patient informed the author, that there was a disposition in the disease to return, and of his own accord he had used the strychnine fourteen days. More than two years have now elapsed without a recurrence of the malady." 126.

Case 11. A relation of the Marquess of Anglesea had been afflicted for many years with tic douloureux, the attacks continuing for indefinite periods. The pain was chiefly in the right side of the face. One or two suspected teeth had been extracted. He had occasional fulness in the head. Medical assistance, of the first quality, had been procured, yet to no purpose. There appeared to be no derangement of the general health, excepting that the circulation was rather excited. Some blood was taken from the arm, and presented the buffy coat. Then eighteen ounces were abstracted, and evinced the same quality. The detraction was repeated in a couple of days, and salines were exhibited. The facial pain became sensibly diminished. Exposure to the inclemency of the weather, in a journey to Brighton, produced a relapse, and on taking blood, it was not found buffy. The strychnine was now exhibited, and applied externally. In a month the pain was gone. The patient then went to the Continent, and the sequel of the case is unknown.

After stating some other cases, Mr. Mart concludes with this sensible observation.

"Strychnine must not be considered as a specific. It will not succeed in every case. Generally, however, its effects are beneficial, and considerable confidence may be placed in its virtues. It is not to be used to the exclusion of other remedies; but when cases occur which have resisted the usual modes of treatment, a trial of this remedy will generally be attended with mitigation of suffering, often with permanent relief." 148.

Neuralgia.

This class of painful complaints has excited great attention for many years past. Our author is inclined to give neuralgia a very wide range—wider even than that which has

been ascribed to it by a late talented writer —Dr. M'Culloch.*

"When the facial nerves are affected, or when the pain is confined to the course of the nerves in the upper or lower extremities, little difficulty arises in detecting the disease; but very frequently symptoms of an anomalous description appear, and assume various characters, the origin of which is in the majority of cases exceedingly obscure. Many of those indescribable and tedious complaints which principally affect persons in the highest ranks of life, especially females, are often connected with functional disorder of the nervous system. They often manifest themselves by weakness in portions of the body, often in particular parts of the legs and arms, or of the back. Some of the symptoms are referable to the internal organs. Sometimes the urinary apparatus or bowels are affected. Occasionally disorder of the digestive and pulmonary organs appears under the various forms of asthma, palpitation, spasms, and head-ache. 'There are few physicians who may not on reviewing many cases which have occurred to them of anomalous pains in different parts of the body, so as to counterfeit *gouty*, *bilious*, and other internal affections of the stamach and bowels, perceive some analogy between them and the complaints pointed out.'" 151.

We need not detain our readers with an enumeration of the symptoms of neuralgia, as detailed by our author. Several cases, some of them well-marked, are related by Mr. Mart, in which strychnine appears to have been very advantageous. In a disease, therefore, so generally intractable as neuralgia is known to be, the remedy in question may be fairly recommended as a "dernier resort." We place more confidence in the statements of Mr. Mart, than in those who hold their heads much higher in the medical world, because we know him to be a straightforward "HONEST MAN"—who, according to Pope, and many others, ought to be considered as—the "noblest work of God." Of all arts, sciences, or avocations, MEDICINE is that which ought, for its own sake, and the sake of humanity, most dearly to cherish HONESTY. It is a science which contains the purest ore combined with the most worthless dross! From its nature and constitution, it will be exceedingly difficult of depuration. A thousand centuries will not constitute it a pure science. It is incapable of becoming one. It must always have a vast alloy of *conjecture*; and wherever there is conjecture, there will be Charlatanism and knavery!

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* We were sincerely grieved to learn the melancholy fate of Dr. M'Culloch. It appears that, in jumping out of a chaise, he received so bad a fracture of one of his legs that amputation was rendered necessary, and that he died soon after the operation! He was a man of great, though eccentric talent—and his loss is deeply to be deplored by science in general, and medical science in particular!

NORTH LONDON HOSPITAL.

CLINICAL LECTURES

ON CASES OF

DISEASE OF THE URINARY ORGANS.

Delivered in the Session of 1836,

BY MR LISTON.

LECTURE II.

Abscess with Stricture.—State of the Bladder.

GENTLEMEN,—The last time I had the pleasure of meeting you here, I endeavoured to explain to you, and to make you understand, the symptoms of stricture of the urethra, and some of the consequences arising from that disease, and I illustrated these remarks by reference to cases under treatment; I detailed to you the pathological changes which occur, the alterations that take place in the urethra itself, the manner in which the contraction is formed, the state of the passage, both anteriorly to the stricture and behind it. I explained how abscess formed behind the stricture, coming on sometimes very slowly, and ultimately bursting, with very great relief to the patient, a considerable part of the water, after few days, being discharged through the opening, either in the perineum or in the scrotum,—somewhere thereabouts. Occasionally the abscess bursts into the rectum, giving rise to very unpleasant symptoms, and complicating the case considerably. This occurrence in general follows after severe injury of the perineum. I have seen it happen in two or three patients who had been bruised severely about the pelvic region from banks of earth, for instance, falling upon them, though occasionally abscess forms far back in the canal in consequence of stricture, and bursts into the rectum, the greater part of the water being discharged through that channel. I stated to you also the changes that take place as regards the bladder. The balance in such case is lost, or as the phrase is, there is a want of consent between the expelling and the retaining powers of that viscus, which become contracted, diminished very much in size, and its coats are remarkably thickened, in consequence of the resistance that is offered by the narrowing of the passage I pointed out to you some specimens in which the muscular coat of the bladder was remarkably thickened, in which, in fact, the parietes resembled more those of the left side of the heart, than those of the bladder in its normal state. The mucous coat undergoes some alteration, and becomes more thickened and vascular, the mucous coat, occasionally, being found to protrude between the meshes of the muscular coat. Pouches are thus formed, which often attain a very large size. I have in my collection some preparations, which, however, are rather bulky, and not convenient to remove, with several pouches so large as to be capable of containing a small orange. These pouches sometimes attain even a larger size, and seem to resemble almost another bladder. When the opening of the pouch is narrowed, the

fluid is first evacuated (whether by the catheter or by the natural efforts) from the bladder itself, after which it comes away from the emptying of those sacs. Those appendages occasionally contain considerable accumulation of viscid and acrid mucus, and there is no doubt that the abscesses connected with the bladder, which occasionally burst above the pubis, sometimes have their origin in this protrusion of the mucous coat through the muscular parietes.

But the mischief is not confined to the urethra and bladder only, for you find that *in cases of stricture, sooner or later, the ureters and the kidneys suffer.* You find, more especially when the patients have laboured under retention several times, that the ureters are immensely enlarged, and present a very wide caliber, almost resembling the small intestines; their parietes also are thickened; the pelvis of the kidney is enlarged, in consequence of the sort of valvular arrangement of the opening from the ureter into the bladder being obliterated. If a patient suffers frequently under retention, the ureters and the pelves of the kidneys are dilated, the secreting substance of the kidney itself becomes disorganized, diminishes in bulk, is softened, and, in some cases, almost entirely disappears, presenting merely a sort of bag, formed by the enlargement of its pelvis, with very little secreting substance at all.* In cases of retention of urine, you can easily satisfy yourselves, from the symptoms, that the kidneys are more or less affected. When retention has existed for a considerable time, the bladder becomes distended, to a certain extent, and then the secretions are suspended in a great measure; but after the bladder is relieved (the pressure probably being taken from the secreting substance of the kidney), the secretion is re-established with great vigour, and the bladder is filled, in the course of an hour or two, to as great an extent as in the first instance. When the kidneys and ureters, more especially the kidneys, are disorganized, from this or from any other cause, the patient may be relieved for a time, the symptoms may be palliated, but his ultimate recovery cannot be expected. He is then in a very precarious condition.

The Treatment of Stricture

demands your closest attention. It is a disease the management of which requires a great deal of skill and dexterity. I do not speak of the strictures which are usually met with—slight contractions of the passage, the mere spasmodic contraction, which is attendant upon thickening and irritability of the mucous lining of the canal, accompanied or not by a discharge, and, perhaps, with some uneasy symptoms about the parts. That is very easily got rid of by the occasional introduction of a proper instrument. There are before you a great variety of

Instruments used to Dilate and Examine the Urethral Passage.

All sorts of flexible and soft instruments are employed for the management of these diseases; but great objections may be offered to the majority of them. They are apt, unless very cautiously and properly used, to turn up, and bend, in the canal. They come out in a form like a hook, by being pressed against the stricture. They turn, as it were, upon themselves; or, again, if their points are entangled in the stricture, and efforts are made to press them on by turning and twisting them about, they come out like a corkscrew, well bathed in blood. You can never depend upon getting a bougie of this sort through a stricture of the urethra possessing any degree of tightness and elasticity. You are apt to do a great deal of harm with them. If you do insist on employing such tools for ascertaining the existence of a contraction, or for exploring its nature, seat, and extent, they must be used with very great caution indeed. It has been proposed to examine the passage with silver balls of different sizes mounted on wires, but these are scarcely ever employed now. The best instrument for the purpose, I believe, is a metallic bougie, such as I now show you, and you require to have them of different sizes, from below this size to considerably above it. Those, I think, are the best which are made of solid and firm metal, and plated over. You may have them of silver, if you will, but they answer the purpose perfectly well if their surface be smooth. You know exactly where the point of an instrument such as this is, is resting. You can direct it in any way you think proper, by a slight movement of the hand. Pressure makes the point obey your will, and you can overcome every difficulty with the greatest facility. But in most cases, in trifling strictures, there is no obstacle. A great deal has been said about the lacunæ of the urethra entangling and obstructing the passage of the bougie. A very small flexible instrument may be so arrested. The contraction of the muscles

* Mr. Liston exhibited at the commencement of the following lecture a very remarkable and beautiful specimen, illustrative of this pathological change in the bladder; it was obtained from the body of a very young patient, under three years of age. This child, very delicate, was somehow seized with retention of urine, labouring under it unrelieved for several days. At last a catheter was used. It was found necessary to continue the introduction of the instrument twice a day for many weeks, the power of expelling the contents of the bladder having been lost. The patient was sent to the Hospital, under the supposition that he laboured under calculus vesicæ. No stone could be detected. All means were employed to palliate the symptoms; but the child, labouring under mesenteric disease, greatly emaciated, at length succumbed. The bladder is capacious; the surface rough and fasciculated. In the posterior fundus is an opening with rounded edges, of the size of a half-crown piece, leading to a cavity formed by a protrusion of the mucous coat, and capable of containing at least 5 or 6 ounces of fluid. The ureters are amazingly enlarged, and thickened in their coats, they resemble the small gut of a child; and the pelves of both kidneys, especially the right, are immensely expanded, the cortical and secreting part of the gland being spread out and attenuated. *Rep. L.*

may, occasionally, also prevent, for a little time, the

Introduction of the Instrument;

but by using an instrument of proper form and size, and by slightly diverting the attention of the patient, these difficulties are, in general, easily got over. I have frequently seen, where there has been slight obstruction from this latter cause, that by turning the patient's attention in another direction, by diverting him by some trifling observation, or manœuvre, the instrument has passed in immediately without any difficulty whatever. The muscles surrounding the bulb of the urethra, and the membranous portion, are those muscles which, by irregular and spasmodic action, may offer opposition, but by a little perseverance all these obstacles are to be got over. These muscles are sometimes thrown into powerful, and, in a measure, involuntary action, in consequence of the instrument coming in contact with the disordered and excitable portion of the lining membrane; the further progress of the bougie is thus opposed and prevented unless unjustifiable pressure is made and continued. Upon the pressure, which should be on all occasions gentle, being relaxed, the bougie is forthwith extruded; this is sometimes followed by the escape of a small quantity of blood, which shows the degree of tenderness of the mucous lining, and congestion of its vessels. The instrument is to be passed, if the patient be in the erect position, with the convex portion towards the abdomen. It is allowed to fall in by its own weight, by a *tour-de-maitre*, as it is called. You bring the concavity upwards, and then by depressing it very gently, you get over every obstacle. You may find, perhaps, in the membranous portion a little resistance and grasping, a slight tightness of the passage from the action of the muscular apparatus supporting and surrounding it. That is very speedily overcome by gentle perseverance.

Object of the Introduction.

The introduction of an instrument thus gently, affords relief to the patient by diminishing the irritability of the passage, and, if there be any thickening, by promoting the absorption of that thickening. You are aware that the application of mechanical or chemical stimuli, from time to time, to any surface which is naturally irritable, or which has become so from disease, exhausts and diminishes the excitability or the irritability of the part. You introduce the instrument with that view, and allow all the effect of the introduction to pass over before you attempt to introduce it again. You perhaps introduce the instrument when the patient applies to you, allowing four or five or six days to elapse before you attempt it again, and upon the second occasion you will probably get the instrument through the contraction with greater ease; there is, perhaps, less irritability, you withdraw it again and you are enabled to pass one of two or three sizes larger; and in this way you steal a march on the disease, and the patient in a few days is relieved from all his unpleasant symptoms, both as regards the urethra itself, the parts surrounding it, and those parts, also, which have sympathized with it.

Now, in cases of this kind,—slight and trifling strictures as I have called them,—there is no use in any other mode of proceeding,—no necessity for having recourse to caustic, which was at one time very extensively used in cases of all kinds—in real and in *supposed* stricture. People were made to believe, when they applied on account of any uneasiness in this quarter, that they had stricture, and a course of

Caustic Bougies

was then entered upon. A great many people were humbugged in that way, and, as I said before, were even "bungled out of their lives" in the end. Daran was amongst the first, I believe, who thought of these bougies. The soft bougies are made of wax and resin, or ingredients of that kind, spread upon slips of cloth, and rolled up with a machine; and into this composition Armenian bole, red precipitate, and things of that sort, were wont to be incorporated, in order that the instrument might have a more powerful effect on the contraction of the passage, from whatever cause that contraction arose. Daran thought there was a sort of wart or caruncle in the passage, and he introduced these escharotic substances, in order that they might act upon, and dry up, or corrode, the warty excrescences. Mr. John Hunter took up this subject, and he substituted for the escharotics in use, the nitrate of silver, which, however, he did not use very extensively. He, again, was succeeded by Sir Everard Home, who made a very good job of it. He long enjoyed a great practice in this line, and he made a point of treating almost every stricture in this manner. Mr. Hunter used his caustic to the anterior and the straighter part of the urethra, by means of such an instrument as I now show you, by means of what was called a "porte caustic,"—a canula, with a wire sliding in it, and a sort of contrivance for containing the caustic at its further end. Sir Everard Home, again, fitted the caustic into plaster bougies, such as you here see. Here are a lot of bougies [*Exhibiting an immense number*], for I began to study when the caustic bougies were in great vogue, and with these I provided myself, although I cannot say that I ever used them very frequently. The caustic is inserted into the end of the bougie. Copious directions were given as to how it is to be put in safely, and so on. It seems that the position of the stricture was first ascertained by a soft wax bougie, whether white or black is of little consequence, and then a mark was made on the caustic bougie, corresponding with that on the other; the caustic or "armed" one, as it is denominated, was then slipped down, and held in contact with what opposed it, for a minute or less, according to the determination of the patient or the operator. This practice has been again revived by Ducamp, Lallemand, and others. What I here, again,

show you, are some of the instruments which have been invented lately for the purpose. They consist of a straight or a bent canula, with porte caustics, which are to be passed through the stricture, so that the caustic may be applied to one side or the other. There are little cavities in which the caustic is put. One part of the apparatus is carried down to the obstacle, and that part is pushed through it. The caustic is thus applied to whatever side of the canal is *supposed* to be most diseased. Here are others, for taking an impression of the part previously. This is just a return to the old-fashioned absurdity of measuring to ascertain the site of the stricture,—getting a mould of it, and then pretending to burn it out,—a capital way of picking people's pockets you may depend upon it. This caustic did, undoubtedly, sometimes do good, because when nitrate of silver is applied it will diminish the irritability of the part, and sometimes the patients passed their water easier, and the bougie slipped more readily through the stricture afterwards. The remedy was all very well when employed in this way, lightly and seldom, so as to diminish the irritability of the canal; but when it was applied with a view to drive a mine through the part, to destroy the living stricture, why then it did a great deal of harm. I don't mean to read all the books to you which I have here, but I have brought them in order to let you see the sort of practice that was pursued when I began to study. Here is

One of Sir Everard Home's Caustic Bougie Cases,

for an example, and if no great good was done to the patient by this practice, depend upon it it was very advantageous to the practitioner. The case is one of many of which the book is made up. The patient, a gentleman, had had a clap when sixteen years of age; the inflammation was very severe, and lasted nine or ten months; then a gleet came on; he used astringent injections; the discharge stopped, and the urine was voided with difficulty. The gentleman then applied to Sir Everard Home, who examined the urethra with a bougie, and applied the caustic. Up to a certain time the caustic was applied fifty-one times; then, again, from October 1796, to October 1797, it was applied one hundred and ten times; then the patient went into the country, and had it applied thirty-eight times. This is related in a book which Sir Benjamin Brodie recommends as a very valuable and excellent work! I do not know whether he recommends the practice now or not. He used at one time to talk in commendation of it, if I mistake not, but in his own book he passes over the subject rather lightly; in fact he seems to give it the go-by. The caustic was then applied, from the 5th of January to the 26th of August, one hundred and two times. In another year it was applied one hundred and forty-eight times,—a pretty source of revenue at a guinea a time, I should think. From November to the end of June forty times. In all four hundred and eighty-nine times in this one case! But there are some other cases equally good, if not better. This patient continued free for some time from any relapse, but he was still under the necessity of passing a bougie *daily* into the urethra and leaving it in the canal for half an hour at a time, to keep the canal in a state of freedom. Now who will be bold enough to call this a cure? Why, after all the four hundred and eight-nine applications of caustic, he was under the necessity of using a bougie from day to day! A pretty account this, from the surgeon's own mouth, of the success of the practice which he recommends. Yet for years such proceedings were lauded and nothing would go down but treatment by caustic bougies.

But this has given way to another piece of nonsense, I can call it nothing else,—the cutting of the strictures from within, the useing of

Cutting Catheters,

which are not a whit better, or more safe, than the caustic, depend upon it. This practice has been recommended by various surgeons, and I now put before you the various apparatus of those different people. Here, in the first place, is that of Amussat: it is composed of a straight silver bougie, in two parts, joined by a screw. This is passed through the stricture first. (You know very well, that when we can get an instrument like this through the stricture, we consider the cure to be all but complete.) Then the canula, with cutting edges at its extremity, is pushed over, the penis being grasped and pulled forwards, so as to put the urethral canal upon the stretch. The instrument is constructed to cut the internal parts, in the same way as a stricture in the rectum has sometimes been cut when it is unyielding. It is no bad notion, but still it may prove injurious, and it is a practice which is not required. This instrument I had from Amussat himself, and is one which I saw him use. Here, again, is another contrivance of the kind, which is called a "lancetted stilet." It is a catheter, with a lancet, which can be made to protrude at its point. It is a very dangerous sort of tool. Indeed I do not know who would choose to have this introduced into his urethra. It must be a highly dangerous proceeding in the hands of any one, however dexterous he may be. Here is another of these machines. This small catheter is to be passed, with the wire in it; the catheter is then withdrawn, the wire being left; the wire is then carried through the centre of this cutting instrument, and is intended to serve as a guide to it. It would be all very well if you had any means of fixing the farther end of this wire. If you could but put your fingers in any way into the bladder, and lay hold of the wire, then the conductor would be perfect, and you could push the double lancet down, and divide the parts safely enough. There are other ma-

chines of the same fashion ; here is one of Lallemand's, and I think it is safer than most of the others. A little lancet is protruded, and the stricture is cut, either by pushing the instrument forward, or in withdrawing it,—all very pretty things to look at, and very useful to the instrument-makers, who of course approve of them ; but not so to the patient, as he finds, in the end, by sad experience.

Now in slight cases of stricture, none of these plans by caustic or by cutting can by any possibility be required ; and in bad cases no good can result from them. If you could succeed in boring a hole with caustic through a contraction,—and you might do so, were you to use the kali purum, the infernal stone, as it has been called, and which has even been recommended by some innovators and schemers, you would not benefit the patient, —you would certainly leave the patient after great suffering, in a worse state than you found him. Great and imminent dangers arise from the use of any caustic. There is risk of hemorrhage, of rigors, of false passage, and I cannot tell you what else.

But even if you could succeed in passing through the obstacle, you would leave a large internal sore behind, and what are you to expect from the cicatrization of that ? Why a worse contraction than existed before. The same observation might be applied to the employment of the cutting instruments. No good can result in a very tight stricture, by dabbling at the near end or commencement of the contraction, with any of them. You would no doubt make a breach of surface in the membrane lining the passage, but you would not succeed in getting through such strictures, as you see in these specimens or drawings,—such as those which patients in the hospital labour under—strictures involving an inch or more of the urethra. You produce, perhaps, a solution of continuity in the inner surface of the canal, and you must have a cicatrization and contraction, in consequence, in that part. Moreover, your patient will very soon labour under a worse stricture, one more tight, confirmed, and unyielding, than you first found him with. I am astonished that some of the clever people who have turned their attention to this subject should not have thought of employing a " punch," as it is called, on the end of the catheter, and taking a bit out of the canal, as clean as a whistle, scooping it out as you would the eye of a potato. It might be called the " terebrated catheter." We shall have something of the kind invented, no doubt, and made a fuss about. Some of you may take the hint and publish a book on the subject. The name is at your service, and you might get a good deal by it.

Now these bougies for boring and cutting you are certainly not warranted in employing in ordinary cases of stricture, and in cases of tight stricture, and all cases of stricture involving a considerable portion of the canal, they cannot possibly be applied with any advantage whatever. What are you to do then ? I would have you proceed in the way you have seen cases managed in this hospital. Some of them have, I am sure been turned out cured after a very short process. I would have you attempt to get an instrument through the contraction, and if you succeed in your object, however small the instrument may be, you will ultimately have but little difficulty in overcoming the disease. I am talking of bad strictures now, such as I showed you preparations of the other day ; such contractions as you see in some of the preparations in museums in which punctures above the pubes, and punctures in different parts of the bladder, have been resorted to. I have none such in my collection. You are, however, to try to pass an instrument, and if you succeed, as I have said, in getting one through, however small the instrument may be, the cure is completely within your grasp. A great deal of care and caution is necessary in the introduction of instruments in such cases. Sometimes you may be foiled in passing an instrument in the first instance, but if any water come through at all, if the bladder be capable of relieving itself in any way, you are not to be disappointed ; at least, if you have gone about it gently, in general no bad effect can result. You will attempt the introduction at another time, and perhaps succeed at least in getting one through, and there you would retain it.

Proper Catheters.—Mode of Use.

The instruments which I should recommend to you in tight and bad stricture, are catheters, such as I now hold in my hand, pretty firm and well tempered, which will not bend and yield readily. You may use them of any curve you please, the less bent the better. These are good old-fashioned catheters with large metal rings, by which you have quite a sufficient hold. They are far to be preferred to the new-fangled tools with wooden handles, well furrowed, in using which you lose the advantage of that delicacy of touch by which alone you can guide the point of the instrument certainly and safely to its destination. I must say I do not fancy any instrument whatever with a rough handle, and far less sounds, staffs, and catheters, which are intended to be passed into deep hidden parts, and the safe conduct of which depends upon the motions of the fingers, regulated by the feelings communicated through their nerves. In looking over the stores of instrument makers, one would be led to suppose that the different cutting and boring machines had been contrived by some very nervous and shaky gentleman who was obliged to hold on like grim death, lest his finger and instrument in his excessive agitation should part company. You must begin with a small one. You will pass it down, and probably get it through the first contraction, by which you will find it firmly embraced. You may overcome the resistance thus occasioned, and find perhaps that there is a second contraction further on. You cannot with any very great safety pass forward the catheter, because you are uncertain

whether the resistance is offered by the first stricture, or whether it is owing to the grasping of the opposition of the second one. You retain the catheter for a little while. If you are anxious, and it is an object to get the catheter into the bladder at that time, you may withdraw the first instrument, and then try one of half the size. That will not be held by the first stricture, and you will then probably get it readily through the second, and lodge it in the bladder. But you will recollect that there is a dilatation always behind the stricture, and you must be exceedingly cautious in passing it through the prostatic portion of the urethra. The ducts are always increased in size, and if you do not take care, the catheter may get entangled in one of these, and if you persevere in pressing it forward, you may do a mighty deal of harm. You should pass your finger into the rectum as a guide, not with a view of changing the position of the point of the instrument ; that you cannot do ; but with the intention of enabling you to ascertain exactly what direction it is taking. You withdraw the catheter a little, and pass it on again, if there be a resistance, until you succeed in lodging it in the cavity. The passing of water of course affords evidence that all is right.

Now, as I said before, you may find it impossible to pass the instrument in the first instance, but you are to try it again and again, and at last you ought to succeed. If any water comes away at all through the urethra, although it may be in a very shabby way,—by mere drop,—you ought to succeed in getting the instrument into the bladder. I have, in two or three cases, where water was passing away, been very much afraid, lest I should be called upon to cut into the urethra behind the stricture. You may be called upon to do so in cases where you have been foiled in passing the instrument through the urethra. But I think that

When there is Complete Retention, there is less difficulty in passing a Catheter

than when the bladder is capable of relieving itself, because then there is a straining of the bladder. The urethra behind is considerably distended and enlarged, and there is less difficulty in finding the canal behind the stricture, than there is when there is no retention of urine. I should say, that sometimes, even where no water has passed at all, for a long period, through the natural canal, you may succeed in getting the catheter through. I have had to treat some very bad cases at one time and another. I mentioned to you a case the other day, that of Martin, who stated that he had passed no water for some time before he came here. Mr. Hay, one of the very many diligent pupils at this school, had seen the patient a considerable time before he came in, and Mr. Hay's account agrees exactly with my impression, that the patient had not for a considerable time passed any water at all through the urethra, but yet you saw that by perseverance the catheter was at last got into the bladder. I have before me the notes of a somewhat similar case, written by the patient himself, in which he says, that in the latter end of 1826 he had a stricture. He went to a warm climate, and a short time after his arrival he got stricture so badly, that he could not make water at all, and it was drawn off regularly. In the year 1829 he placed himself under the care of a practitioner in this city (London), and to all appearance got well. He returned to India again, but became so bad in 1835, that none of the medical men could pass the smallest bougie, and his water came away merely by drops, with the most excruciating agony, the desire to urinate coming on every ten minutes. From the external opening of the urethra to the entrance into the bladder, the parts, he says, were swollen enormously. He was told that he laboured under disease of the prostate. Indeed, it is astonishing how many practitioners fall into the blunder of supposing that young men are labouring under that affection, for it is only in old age that the sort of hypertrophy, or enlargement of the prostate, takes place. There is no disease of the prostate gland in young men ; the obstacle is generally situated farther forward. He was sent home, and was so ill on his voyage, that for the last nineteen days in August, he states that he could not make a single drop of water, and superadded to the retention of urine was suppression of urine. The functions of the kidneys *must* have been suspended, otherwise serious local mischief would have taken place, and that other bad consequences did not occur is astonishing. A swelling formed behind the scrotum, and burst ; an abscess had formed in the perineum, and he was relieved. Upon his arrival in this country he applied to medical men in his neighbourhood, but they could not pass any bougie, and for two months before he came to me, not a single drop of water had passed through the urethra. He could not retain his water ; it was running from him at all times, and occasionally violent spasms came on, of the most excruciating kind ; there was violent straining of the bladder, and of the muscles that are concerned in emptying it. In that case a catheter was got through the first stricture with no very great difficulty. I could not succeed in passing it to the bladder at first, but I assured him that every thing would go on well, and begged of him to retain it in half an hour ; I returned and withdrew it, and at the same time took the liberty of passing one, a little less in size, through the second contraction, into the bladder. This catheter was retained for forty-eight hours. That was taken out, and one of about double the size was introduced. The day after, a full-sized catheter was passed into the bladder without difficulty. It was withdrawn, and he was allowed to rest. In two days the catheter was re-introduced readily. Since then it has been passed four or five times, with an interval of five or six days, and having regained his health and strength, he now walks about and amuses himself, having completely recovered all the functions of the parts ; the openings

have nearly healed up, and he will soon be perfectly well. As regards the fistulous tracts and openings in the perineum and scrotum, the removal of their cause (the obstruction of the passage in the great majority of cases), suffices for their cure—they gradually cease to give exit to urine ; it passes slowly, then in drops, as the stream through the natural passage improves, and, finally, both that and the purulent secretion cease entirely ; the hardness gradually disappears. It may be now and then necessary to dilate the openings a little, to foment, and enjoin rest, if, after the introduction of a bougie, pain or swelling should supervene. In some few cases, when perhaps the whole of the urine has found an exit for months through a false passage, and when that does not close after the urethra is put into good order, you may be called upon to employ means to promote and hasten the closure of the sinus. In those cases, in which a communication has been formed with the bowel, also, further proceedings are called for than a "course of bougies." You may have to retain a catheter for some time, though, occasionally, ulceration is produced or kept up by a foreign body in the urethra. The means most effectual, and by much more to be depended upon than real or supposed caustics, is the application of a heated wire, and that is almost the only case in surgery,—those false passages about the male or female organs,—in which, so far as I apprehend, the actual cautery can be justifiably employed. We can, when some would have recourse to its use, attain our object more speedily by less painful and much less appalling methods. Here, however, the extent of the cauterization can be more certainly regulated, and the contraction which follows is more complete than that which follows any potential cautery. If a repetition of the application is called for, a sufficient interval must be allowed to elapse betwixt the operations. The contraction must be allowed to go as far as it will do after one touch of the wire, before it is repeated. As yet we have had no trouble with those cases of fistula in perineo which you have seen treated in this hospital, and these have not been few since it has been opened for the reception of patients.—*Lancet.*

CORRESPONDENCE.

WORKING OF A PLAN MEDICAL RETIRING FUND WITH REVISED RATES OF SUBSCRIPTIONS AND DONATIONS.

By H. Hough, Esquire.
Superintending Surgeon.

The following document is valuable, as coming from a correspondent fully able to make calculations of the nature now submitted for the consideration of the service. Suggestions for improvements are desirable at any time, provided subscribers do not allow them to suspend present operations until they are satisfactorily proved to be improvements and meet with universal support. With this view we court discussion on our correspondent's communication. One is a table of subscriptions and donations of a medical officer, from the date of his entering the service in India, to the close of it in 23 years, calculated on the scale laid down in the printed plan of 1833 ; and the other, No. 2, is a table of the same on a revised scale, such as may tempt the remainder of the service to agree to the plan. Without some new and improved clauses Mr. Hough fears ¾ of the 2d half of our members will hang back and thus reduce the retirements 'par force' to only three in a year ! The third paper shows the working of a plan combining 4 annuities and 2 bonuses yearly. Mr. Hough is of opinion that if there are no bonuses there will be but little to tempt seniors to enter the list. Thus suppose "he had to pay up 15,000 to get £300 a year, he might be tempted to stay an additional year to cover this, to indemify his family, or, by insurance of life, reduce the annuity to £130 !" "This is not encouraging to seniors and those who retire at 57 instead of 46 or 47. £300 at this last is equal to £500 merely for the former. The great object of the fund is in a way to "purchase out the seniors." In the army a *major* gets from 18,000 to 25,000 to accomplish this, and no one asks how large an annuity he may obtain for this ! A major's appointment is only worth Rs. 4200 more than a captain's ; yet the former obtains 5 or 6 years' purchase of the difference. At the same rate a superintending surgeon might receive 60 or 70,000 ; but, instead of this, he is called upon to purchase an annuity." Mr. Hough quotes the opinion of a professional brother, in a letter to us, which was, "that it is worth our while to give a turn to the few seniors at the top of the list, and take no subscription at all from them as is done in regiments every day !" It must be recollected that,

not only does the 1st senior surgeon unpromoted lose the difference or Rs. 15,000 and the ditto A. S. Rs. 3600 a year; but, there is no guarantee that before promotion the situation of the former may not be reduced to 10,000 or to a less sum which will not effect present incumbents, and this person, instead of having to stay one more year, may have to remain 2 years more. Mr. Hough adds an "Estimate of subscriptions and donations for effecting four annuities and two bonuses in each year, of £ 300 and Rs. 30,000 respectively.

1st,—It is proposed that the monthly subscriptions ought to be more moderate than the scale laid down in the original plan circulated, and

2d,—That the donations ought to be called for at the time when they could be best borne.

A neglect of these important points seems to have occasioned much shyness, and will no doubt deter many from joining in the important benefit which a reasonable scale of subscriptions and donations would attract. The following plan has been drawn up with considerable care and attention to the income of the junior medical officers, and, it is hoped, will be found capable of working well."

REVISED SCALE OF SUBSCRIPTIONS OF 240 ASSISTANT SURGEONS.

Class.	*No.*	*Monthly Subscriptions.*	*Yearly*	*Total Each Class.*		
1st	30	15	180=	5,400		
2nd	50	12	144=	7,200		
3rd	70	8	96=	6,720		Rs.
4th	90	5	60=	5,400	Total	24,720

SUBSCRIPTIONS OF 110 SURGEONS.

1st	15	150	1,800=	27,000		
2nd	20	75	900=	18,000		
3rd	30	50	600=	18,000		
4th	45	30	360=	16,200		79,200

Total amount of annual subscriptions Rs. 1,03,920

Donations of all Ranks, to be claimed on promotion only, and 6 Assistant Surgeons and 6 Surgeons only, accounted for in the Estimate, each to pay the amount of six months' improved income.

6 Assistant Surgeons promoted to Surgeons.....	Improved Income 300	months 6 =	1,800 =	Rs. 10,800	
6 Surgeons promoted to rank of Superintending Surgeons.. ...	* 1,000	6 =	6,000 =	36,000	
			Total amount of donations..		46,800
			Add annual amount of subscriptions..		1,03,920
			Total Income from both, Co.'s Rs.		1,50,720

Capital for application to the first working year of the Fund—viz.

Arrears of amount annual subscriptions for 1833.....	Co.'s Rs.		1,03,920
Do. Do. Do. Do. 1834 1835 1836..	,,		3,11,760
Total arrears subscriptions..	Co.'s Rs.		4,15,680
1837 Charges 1st working year.			
1st year. 4 Annuities, each..	3,000 Rs.	12,000	
2 Bonuses, each....	30,000 ,,	60,000	
Office, &c....	0 ,,	4,000	76,000
Balance for 1838..	Co.'s Rs.		3,39,680
Add donations of 6 promoted Surgeons to Supg. Surgeons .....each Rs.	6,000 =	36,000	
Do. Do. 6 Assistant Surgeons to Surgeons.....each ,,	1,800 =	10,800	46,800
Capital (or Z) for 1838.....	Co.'s Rs.		3,86,480
Income in 1838 (?)			
1838 (*a*) Interest on (Z) at 6 per cent.	Rs. 23,188		
(*b*) Amount annual subscriptions 1,03,920			
or Do. promotion donations 46,800	,, 1,50,720		
2nd year. Broken interest on (*a*) 6 per cent.. 1,382			
Do. Do. on (*b*) 3 do. .. .. .. 3,117 =	4,449	(? 1838)	1,78,407
Total Capital and Income 1838			5,64,887

* Average nearly in Upper and Lower Provinces, or that amount exceeding Rupees 700 to 800 per mensem.

	Charges in 1838				
	8 Annuities, each	3,000 =	24,000		
	2 Bonuses, each..	30,000 =	60,000		
	Office, &c.		4,000		88,000
	Capital (or Z) for 1839..		Rs.	Co.'s Found.	4,76,887
1839	(*a*) Interest on Z at 6 per cent		28,613		
or	(*b*) Annual subscriptions		1,03,920		
	Do. promotion donations		46,800		
3 year.	Broken interest on (*a*) 6 per cent		1,716		
	Do. Do. on (*b*) 3 ditto		3,117	Total Income	1,84,166
				Total Company's Rupees..	6,61,053
	Charges in 1839.				
	12 Annuities, each	3000 =	36,000		
	less 10 per cent	3600 *	3,600		
			32,400		
	2 Bonuses, each	30,000 =	60,000		
	Office, &c.		4,000		96,400
				(Z) for 1840	5,64,653
	Income in 1840.				
	(*a*) Interest on (Z)		33,891		
	(*b*) Amount annual subscriptions.. . .		1,03,920		
	Do. donations		46,800		
1840	Interest on (*a*) 6 per cent		2,038		
or 4 year	Do. (*b*) 3 ditto		3,117	(?) 1840	1,89,761
				Total..	7,54,414
	Charges in 1840.				
	16 Annuities	2,700 — 16 =	43,200		
	2 Bonuses		60,000		
	Office, &c.		4,214		1,07,414
				Z for 1841.	6,47,000
	Income in 1841.				
1841	(*a*) Interest on Z		38,820		
or	(*b*) Amount subscriptions		1,03,920		
5 year	Do. promotion donations		46,800		
	Interest on (*a*) 6 per cent	2,392			
	Ditto (*b*) 3 ditto	3,117	5,509		1,95,049
				Total..	8,42,049
	Charges in 1841.				
	20 Annuities, each	2,700 =	54,000		
	2 Bonuses		60,000		
	Office, &c.		4,000		1,18,000
				(Z) or Capital for 1842	7,24,049
	Income in 1842.				
1842	(*a*) Interest on (Z)		43,440		
or	(*b*) Amount annual subscriptions		1,03,920		
6 year	Ditto promotion donations		46,800		
	Interest on (*a*) 6 per cent		2,606		
	Ditto on (*b*) 3 ditto		3,117	(? 1842)	1,99,883
				Total..	9,23,933
	Charges in 1842.				
	24 Annuities, each	2,700 =	64,800		
	2 Bonuses		60,000		
	Office, &c.		4,132		1,28,932
				Z for 1843	7,95,000
	Income in 1843.				
1843	(*a*) Interest on Z		47,700		
or	(*b*) Amount annual subscriptions		1,03,920		
7 year	Ditto promotion donations		46,800		
	Interest on (*a*) 6 per cent . ..		2,862		
	ditto on (*b*) 3 ditto		3,117	(?) 1843	2,04,399
				Total Capital and Income 1843	9,99,399
	Charges in 1843.				
	28 Annuities, each	2,700 =	75,600		
	2 Bonuses		60,000		
	Office, &c.		4,000		1,39,600
				Z for 1844	8,59,799

† Hereafter charged at Rs. 2,700 and this is much too high for the first 10 or 12 years' working of Fund, as the retirers will attain at least 9 or 10 years above Mr. Curnin's age for his calculation of 10 per cent.

Income in 1844.

1844 or 8 year	(*a*) Interest on Z, ...	Rupees 51,587		
	(*b*) Annual subscriptions	.. 1,03,920		
	Promotion donations	.. 46,800		
	Interest on (*a*) 6 per cent..	3,095		
	Ditto (*b*) 3 ditto	3,117	(? for 1844)	2,08,519
			Total..	10,68,318

Charges in 1844.

32 Annuities, each	2,700	86,400	
2 Bonuses		60,000	
Office, &c.		3,918	1,50,318
	Z for 1845		9,18,000

Income in 1845

1845 or 9 year	(*a*) Interest on (Z	55,080		
	(*b*) Annual subscriptions.....	1,03,920		
	Promotion donations	46,800		
	Interest on (*a*) 6 per cent.....	3,304		
	Don. (*b*) 3 ditto..... ..... :.....	3,117	(? 1845)	2,12,221
			Total..	11,30,221

Charges in 1845

36 Annuities, each..	2,700=97,200		
2 Bonuses, each	30,000=60,000		
Office, &c.	4,000		1,61,200
	Z for 1846		9,69,001

Income in 1846.

1846 or 10 year	(*a*) Interest on Z at 6 per cent	58,140		
	(*b*) Annual subscriptions	1,03,920		
	Promotion donations	46,800		
	Interest on (*a*) 6 per cent	3,488		
	Ditto on (*b*) 3 ditto	3,117	(? 1846)	2,15,466
			Total..	11,84,467

Charges in 1846.

40 Annuities, each	2,700=1,08,000		
2 Bonuses	60,000		
Office, &c.	4,000		1,72,000
	Z or Capital for 11 years..		10,12,467

It is clear therefore, that if the whole Service were to subscribe (and it is imagined, that this more reasonable scale of subscriptions will take with the whole of the service, and dispel the distrust that many seem to entertain as to the working of the plan) since each, it has been shewn, will have to pay, or sacrifice Rs. 10,000 nearly less than by the original plan sent in circulation. Moreover, it is quite clear that the income even so early as the 2d year exceeds the maximum of annual charges.

TABLE No. 1.

Original Scale of Subscriptions to the Medical Retiring Fund, according to the plan in circulation in 1833, *estimated for all grades during a period of* 23 *years' service.*

Year.	Monthly Subscription.	Annual.	Years Interest.	Equal to per cent. Compound Interest.	Compound Interest on each sum 1 to 22½ years.	REMARKS.
			As Assistant Surgeons.			
1	20	240	22	281	674- 4	Allowance made afterwards for the few Assistant Surgeons, at monthly Subscriptions of Rs 12.
2	20	240	21	260	624- 0	
3	20	240	20	220	529- 6	
4	20	240	19	202	484- 8	
5	32	384	18	185	710- 4	
6	32	384	17	169	649- 0	
7	32	384	16	154	591-36	
8	32	384	15	139	534- 0	
9	32	384	14	126	483-84	
10	32	384	13	113	433-92	
11	32	384	12	101	387-84	4,032-00 Principal
12	32	384	11	89	341-66	6,442-82 Interest
	4032				6,442-82	10,474-82 Total first 12 years

Year.	Monthly Subscription.	Annual.	Years' Interest.	Equal to per cent. Compound Interest.	Compound Interest on each sum 1 to 22¼ years	REMARKS.
			As Surgeons and Superintending Surgeons.			
13	56	672	10	79	530·88	
14	56	672	9	68	457· 0	
15	56	672	8	59¼	398· 0	
16	56	672	7	50¼	337·63	
17	56	672	6	41¾	280·56	
18	56	672	5	33¾	226· 0	33·73 per cent.
19	56	672	4	26	174·72	
20	160	1920	3	19	364·80	
21	160	1920	2	12⅓	207· 0	12·36 per cent.
22	160	1920	1	6	115·20	
23	160	1920	½	3	57·60	N. B.—½ a year's Interest or 3 per cent. may be fairly perhaps added to these sums for each year.
Principal Compound Interest		12,384 3,14,939			3,149-39	
	Total..	15,533·39				
		10,474·82 Subscriptions with Compound Interest as Asst. Surgeons				
		26,008·21 Total of both				

No. 2.

Table of Revised Rates of Subscriptions to the Medical Retiring Fund, showing a saving of nearly Rs. 10,000 *to each Medical Officer by adopting a more equitable Scale of Subscriptions of Rs.* 5 *to* 150 *per mensem.*

Working year.	Monthly Subscriptions.	Yearly Subscriptions.	No. of years' Interest.	Equal to per cent. Compound Interest at 6 per cent.	Amount Compound Intt. on each sum for different periods.	REMARKS.
			As Assistant Surgeons.			
1	5	60	22	281	168	The change of rate indicates the period of Subscription at any particular rate.
2	5	60	21	260	156	
3	5	60	20	240	150	
4	5	60	19	202	120·12	
5	8	96	18	185	177·60	
6	8	96	17	169	162·24	
7	8	96	16	153	146·88	
8	12	144	15	139·475	200·88	
9	12	144	14	125	100·00	
10	12	144	13	113	162·72	
11	15	180	12	101	181·80	
12	15	180	11	90	162·00	
		1320			1,968 24	
			As Surgeons and Superintending Surgeons.			
13	30	360	10	79	284·4	Subn. as Ast. Sug original 10,474·82
14	30	360	9	69	248·4	ditto by this plan only.. 3,288·24
15	30	360	8	59¼	215·1	
16	50	600	7	50¼	301·5	Or less by Rs.. 7,186·58
17	50	600	6	42	252·0	
18	50	600	5	33·73	202·0	
19	50	600	4	26	156·0	
20	150	1800	3	19	342·0	
21	150	1800	2	12½	224·0	
22	150	1800	1	6	108·0	
23	150	1800	½	3	54·0	
Principal .		10,680			2,387·4	
Compd. Intt. ..		2,387·4	Total both ..		13,067·4	Amt. of original Scale is.. 26,008·21
Amt. Subscription as Asistant Surgeon					3,288·24	Ditto this Scale .. .. 16,355·64
			Total..		16,355·64	Or less by Co.'s Rs.. 9,652·57

MEDICAL AND PHYSICAL SOCIETY'S MEETING.

Saturday Evening, August 6, 1836.

Present Dr. D. Stewart, Dr. J. Jackson, Dr. McClelland, Dr. Goodeve, Mr. Brett, Mr. Dodgson, Dr. Marshall, Dr. Cantor, Mr. Egerton.

Dr. Ranken, in the chair.

The following gentlemen proposed at the last meeting were elected members of the Society.

————Drummond, Esq., Surgeon to the Right Hon'ble the Governor-General.

Dr. Marshall and J. Dodgson, Esq., Assistant-Surgeons of the Bengal Presidency.

Letters from the following gentlemen were then read. From C. Ducat and L. Hathway, Esquires, Assistant-Surgeons of the Bombay Presidency, Robert Davis, Esq, H. M. 39th Regt., and G. King, Esq., Surgeon, Chunar, requesting that their names might be withdrawn from the Society.

From A. Garden, Esq., on behalf of Dr. Guthrie of Allahabad, to the same purport.

From J. Ludlow, Esq., Superintending-Surgeon, Barrackpore, stating his inability to continue a member of the Society and presenting the library with 8 vols. of the London Medical Journal.

From A. Campbell, Esq., M. D., Nipal, stating that it would afford him much pleasure to take charge of such plants as the Society may think advisable to forward to him from amongst those brought to India by the Right Hon'ble Lord Auckland.

From W. Dunbar, Esq. M. D. in charge of the Ramghur battalion, to the same effect, stating that the climate of Dorunda, where he is stationed, resembles closely that of Hazareebaug, and presents consequently a favorable opportunity for the cultivation of some of the aforesaid plants, particularly the atropa belladonna and guiacum officinale.

A preparation of scirrhus of the pylorus was presented for the museum by Dr. Beattie of Allahabad, through Dr. Ranken.

Part of a paper on mortification, by T. Wise, Esq., M. D., of Hooghly, was then read.

Dr. Wise commences by defining life to be an additional property of organic structure beyond that of simple inorganic matter which pervades in different degrees all its parts, and renders it capable of resisting the physical effects of surrounding agents. The weakening of this principle, to a certain degree, causes death, so in like manner the weakening of local vitality may destroy the part so weakened by its irritation, leading to the death of the patient in some cases; in others ending by the removal of the destroyed portion. This partial destruction of vitality is denominated mortification. Dr. W. divides gangrene: 1st, into that which is produced by local diseases or injuries; 2dly, into that which is produced as a symptom of the state of the constitution; 3dly, the specific action of certain substances, as the ergot of rye, &c.

The causes of accidental gangrene, he says, act either directly or indirectly. The *direct* causes are the cessation of circulation, destruction of nervous energy, or the action of sedatives employed to weakened parts, as in violent bruises or extensive wounds, including large blood vessels or nerves, tight ligatures, cold, escharotics, &c. Dr. W. gives several cases illustrative of this variety, consisting of severe injuries of the limbs, chiefly compound fractures followed by mortification.

The indirect causes of accidental gangrene act as stimuli to parts already much weakened, as applying heat to a part weakened by cold, or exciting an action greater than the power of the part can continue to perform. Dr. W. then describes the usual symptoms and phenomena of gangrene. He considers the shrinking and dark color to be vital actions. He combats the notion that the filling up of the blood-vessels with a plug of coagulated blood is the effect of *mere* coagulation of dead blood. He attributes it and the subsequent closure of the vessels to an increase of vitality in the blood, which fluid, he says, is no longer capable of remaining in a fluid state when its vitality is much encreased, but that it becomes fluid again as soon as the encreased vitality is removed. The excitement of the blood vessels in these cases, he believes, produces the exalted vitality of the contained blood.

The author remarks that the rapidity with which gangrene advances depends on the vitality of the part or of the tissue and its distance from the trunk. From a knowledge of this fact the surgeon amputates a mortified limb before the line of separation between the living and dead matter is marked; even when the cellular tissue is in a state of gangrene. The indications of cure of this species of mortification are: 1st, removal of the exciting causes; 2nd, removal of distressing symptoms by reducing too great vascular action by-means of antiphlogistics, and allaying irritability and pain by opiates; 3rd, promotion of equable circulation by heat and moisture except in mortification produced by cold, or when opposed to the patient's feeling; 4th, sup-

porting the vigour of the system by tonics and nourishing diet, wine, &c.

With regard to the propriety of amputation, Dr. Wise remarks that each case has its own peculiarities, and the surgeon must be guided by them in his opinion. The feasibility and advantage of the operation in many cases of traumatic gangrene, there is abundant proof, and in gangrene from cold it is peculiarly applicable, because there is less danger of the disease returning.

The lateness of the hour and the length of the paper, rendered it necessary to postpone the remainder of Dr. Wise's communication and all discussion upon it till the next meeting.

SECRETARY TO THE MEDICAL FUND.

We observe in the *Bengal Hurkaru* of the 10th of August, the following, said to be, an extract from a letter from Mr. Hill.

"It was a sad omission of mine not to have stated that I would accept the Secretaryship on the same terms as those offered to Mr. Pearson. Indeed, when the salary annexed to the appointment was, on Mr. Mercer's resignation, reduced by the Calcutta Managers, every candidate proffering his services was, of course, doing so on the reduced scale of remuneration assigned to the appointment; and hence I did not at all enter into the question of the amount of salary in my address. It is my conviction that even the present reduced scale of salary is more than the Medical Fund can afford at present, and although Dr. Corbyn would have it otherwise, it is 50 rupees more than that allowed to the Secretary to the *Civil Fund*, and only as much less of the salary of the *Military Fund* Secretary."

From the foregoing the subscribers to the Fund would be led to suppose that Mr. Hill had made application to the Managing Committee to fill the situation of Secretary vacated by Mr. Mercer. We take this opportunity to state that no such application was made to our knowledge. The only application we have seen, shewing Mr. Hill to be a candidate, was an advertisement in the dák edition of the *Courier*, which has been sent for our perusal—a means Mr. Hill adopted of making our Mofussil brethren acquainted with his wishes, but which entirely went to exclude them from the knowledge of the management of the fund. Why he should have done so, we cannot conceive. We can only speak for ourselves individually, that his application or that of any other person would have received the fullest attention from our colleagues and, if required, have been submitted to the Service.

On the subject of the allowances to the Secretary to the Civil and Military Funds we should mention that there are two funds belonging to the Civil Service. the one to which we allude is the Civil Annuity Fund.

Monthly charges of Establishment of the Civil Service Annuity Fund.

Secretary	533
First Assistant	320
Second ditto	160
Native Establishment	92
Co.'s Rs...	1,105

The stationery supplied by Government.

The annexed is a statement of the Establishment of the Military Fund.

Secretary	300
Writers and peons	197
Co.'s Rs...	497

Stationery a contingency.

Now we repeat, if the salary allowed to the Secretary had been any thing like either of the foregoing, the appointment should have been advertised, and candidates invited. The Secretary to the Medical Fund is allowed however merely 150 rupees per mensem, including stationery and establishment, The Management was of opinion that the accountant should be a distinct appointment for which was sanctioned a salary of 100 rupees monthly.

We suppose stationery and the native establishment, including writers and peons, would amount, at the least, to 90 rupees per mensem; which would leave a balance of 60 rupees a month as a remuneration for the Secretary's services, which cannot be otherwise than laborious, especially at a period when the fund is about to commence operations, and when correspondence is so voluminous.

Mr. Pearson's zeal and abilities in his new office are already conspicuous, and which

will have secured him ere this the thanks of every member of the service. Had Mr. Pearson's appointment been a job, the proceedings of the management would have been different to what they were. Immediately on Mr. Mercer's resignation do they increase the salary of his successor, or make it job-like? or do they continue the same salary?—Neither; but proceed to reduce the salary immediately from 300 to 150.

Now, to call this jobbing, we must say it is the most extraordinary specimen of that system we have ever yet heard of. The real state of the case is now obvious that Mr. Mercer retired because the duties were arduous, and took up all his leisure hours from professional avocations, which had encreased and would not suffer a sacrifice of leisure time for double the salary on which Mr. Pearson consented to officiate.

It will be perceived, by reference to regulations of different funds, that the directors of the Civil Fund (see act 17) and Civil Annuity Fund, (see act 22,) and Military Fund, (see act 38) are authorized to elect their own Secretaries. But the Management of the Medical Fund were so determined to escape even the semblance of exercising patronage, in forming their rules, that they would not so much as retain this privilege, but gave it to the service at large.

As we have always exposed what we have considered wrong in the acts of committees of management of various institutions, we shall ever be the foremost to defend these bodies, where we find them right. We think the Committee of the Medical Fund have performed their functions in this instance, in a manner creditable to them, having a proper regard for the economy of the funds.

THE MEMORIAL FOR THE BOON TO THE MEDICAL SERVICE.

On that important question of submitting to the service for signature a memorial to the Hon'ble Court of Directors, praying for a similar indulgence for their medical service as that sanctioned for the officers of the army, that is to say, pensions for length of service instead of rank, much has been said but little done until a few days ago by our brethren at the Presidency. A meeting was called, and it was resolved thereat to form a sub-committee, who were directed to ascertain from the Supreme Government whether or not medical officers were included in the Honorable Court's order. The words "*every officer*," therein mentioned, and as medical men were always borne on the strength and considered as a part of the army, were just grounds to suppose our body were included. If the reply of Government to this enquiry negatived the supposition, the sub-committee were to give the outline of a memorial to be submitted for approval and signature of the service at large.

With respect to the first clause of the foregoing resolution, the reply from Government was unfavourable, and in accordance with the second, the memorial was drawn up for signature. But as we understood, there was a clause, as uncalled for as it would prove injurious to the prosperity of the fund, we called a special meeting of the committee of management, and recorded our reasons for dissenting from the clause in question. In this dissent our colleagues, who were present at the meeting, unanimously concurred; and in consequence we have learned that the memorial has been witheld altogether, and that the sub-committee, instead of submitting any memorial, came to a resolution to wait for a reply to a memorial already sent home, which prays for a similar boon now under consideration. We state the foregoing to shew the cause of delay in getting up a memorial at the Presidency. We differ however in this opinion with the sub-committee. There should be no delay in calling the attention of the Court of Directors to the present question, and to the great length of service of the senior surgeons on the list and the miserable pittance on which they would retire if forced to do so from ill health or other circumstances, such as the infirmity of age, over which they had no control. We have much pleasure in announcing a more successful mode of proceeding on the part of our brethren at the sister presidency of Madras. Their action

has been more prompt and decisive, they have taken the right view of the question, and have prepared a memorial, which they have forwarded to the Secretary of our medical fund, with recommendation for the consideration and adoption of their brethren here and at Bombay. It is precisely similar to the one drawn up for the sub-committee here, but this, of which Dr. Birch is the author, fully supplies the desideratum.

In order to secure this desirable object without delay, by the adoption of the memorial, we have been authorized to submit it to our professional brethren, through the medium of the journal, and to request that members of the service who approve of it, will send their signatures in triplicate, that is to say, on three separate half sheets of paper under cover to our address. We have printed the memorial in a separate sheet, and beg of our subscribers to circulate it to such of our professional brethren as do not see the journal. At stations where many of our brethren are together, the signatures should be collected as preferable to members of the service, sending their signatures separately.

It will be perceived that the memorial is already signed by the Medical Board, and by medical gentlemen at the presidency. This is an excellent commencement, and we hope our brethren will respond to the call by return of dâk.

SUBSCRIBERS TO THE MEDICAL FUND.

We feel great pleasure in announcing that the subscribers to the Medical fund have increased to such a degree as to confirm what was before a mere supposition, that the sanction of the Court of Directors was alone required to induce the whole Medical service to come forward in its support. The powers of attorney sent to subscribers have been signed and returned by so great a number that the annuities will no doubt be immediately tendered.

SCHOOL FOR MEDICAL EDUCATION AT MADRAS.

We have been informed that this school is to be distinguished from that at Calcutta, which alone is to be designated a College. This we think impolitic for two reasons; first, that the term College and title of principal or professor entail no expence upon the Government, while they command great importance with the generality of mankind, who look generally more to the names of things than even to their intrinsic value; secondly, this distinction would infer that the sources of information and means of instruction are to be inferior at the sister presidency to those afforded at the City of palaces; which ought not to be the case. We hear that the students at Madras are equally forward with those at Calcutta, and consequently the latter should not be more favored than the former. We are glad to hear that the foundation of a Medical College is in contemplation at Ceylon? what are our brethren about at Bombay and in the north western provinces?

LABORATORY FOR PREPARING MEDICINE IN INDIA.

It will be remembered that in our May number we alluded to the inutility of indenting for supplies of medicine from Europe. We are glad to hear that the Government have formed a committee, to ascertain what articles of Materia Medica are the produce of this country, and to consider for preparation of medicine what laboratory would be sufficiently large to make the supply equal to the demand that can be made upon it.

THE MILITARY FUND.

Several questions of importance have recently been discussed by the Directors as regards the pecuniary condition of this fund, the result of which has been that they have very properly resolved on sending instructions to the committee now sitting in London to submit the fund to three competent ac-

tuaries, in order to arrange it on equitable and permanent principles. We are confident this information will secure general approbation. Some propositions to be found in our advertisement sheets are submitted to the army for approval.

WANT OF MEANS PREVENTS MANY FROM SUBSCRIBING TO THE MEDICAL FUND, Is a fact just brought to our notice: we were ourselves fully aware of this as may be seen by our articles on the condition of the medical service; but it has come so prominently before us that it is our intention to propose that the term one year now allowed to pay up arrears should extend to two years; and we have no doubt the committee will accede to the proposition.

IS THE BOON DESIRABLE WITHOUT THE FUND?—Far different is the case if we may compare the question with that now agitated by the army, viz. that the officers cannot avail themselves of the boon unless the permission to purchase out is conceded. The principle of purchase and that of the fund are the same, and the question is indisputable that the seniors will not retire without some tempting inducement to do so.

GENERAL ORDERS.

Appointments.—Aug. 8, Asst. Surg. J. Brassey, to the settlement of Malacca. 17th, Asst. Surg. J, Smith, C. S. Backergunge.

Leave of Absence. Aug. 8, Asst. Surg. W. Stevenson, on furlough. Aug. 9, Supg. Surg. Venour, to retire to the Presidency. Aug. 15, J. Healy, Asst. Apoth. H. C. Dispy. N. Cheripoongee, N. C. for one year,

Leave of Absence cancelled. T. Chapman, M. D. Assist. Surg. C. S. Purneah.

TO CORRESPONDENTS.

The following shall appear next month.

Dr. Thomson's case communicated by Dr. Hunter.

An enquiry into the function and connexion of the external layer of the Retina or Membrana Jacobi, by P. F. H. Baddeley, Esquire.

On the use of the Deuto-ioduret (or Hydriodet) of mercury by John Plane, Esquire, Asst. Surg. 11th Regt. N. I.

Hospital practice of the 2d or Queen's Royal Regt. of Foot.

Case of Lithotomy, by F. H. Brett, Esquire.

Plague proved not contagious. Utility of Quarantines doubtful, translated from the French by M. Mathew.

Treatment of snake-bites, by T. Baker Esq. Surgeon 10th Light Cavalary.

Plan of a bath heater, by Dr. Wise.

Case of a tumour extirpated from the neck and face of a native, by Dr. Mackinnon of Tirhoot.

On Luxations—A translation from Journal des Connoissances Medico-Chirurgicales, by P. H. Brett, Esquire.

We beg to acknowledge the receipt of the following valuable paper. "Practical remarks concerning the habitual use of enemata," by Dr. Jackson, H. M. 6th Foot.

Dr. A. Campbell's paper has been received. We fear our esteemed correspondent will think we have neglected his valuable communication. We had placed the articles in a friend's hand to be analysed, and it was returned to us the other day only. The result as yet is not, we are sorry to say, satisfactory.

Guthrie on the habits of the Cobra-de-capello in our next.

We have just received the following from our talented correspondent Mr. Baddeley: Drawings and description of a species of Ichneumon inhabiting the interior of the gall.

Drawings and description of a gall gnat inhabiting the leaves of the same tree.

3 to 4 minute insects found on the leaves of the same tree.

Drawings of the newly-discovered muscles of the eye.

We beg to observe that the Lithographic paper is dispatched.

We have just received Dr. Gullan's communication with enclosure; also Dr. Fleming's letter. We beg to assure our correspondents that our views are the same as theirs. In a future number we shall fully, and, we trust, satisfactorily enlarge upon the particulars to which they allude. A few days since we received our friend Dr. Wood's communication; he will find he has been anticipated. Will A. W. kindly inform us of the result of the memorial on the subject of retaining staff allowances when absent from regimental duty?

We have received Mr. Dicken's comunication, with enclosure: the dak charge on the journals is the same as the banghy, so that they will be sent by the former. We anticipate great reduction on works of science by the new post office regulations, the publication of which is daily expected.

We have received Dr. Anderson's letter: the journals were duly sent by the steamers.

ERRATUM

In Mr. Baddeley's paper in the July number.

Function and connection &c. &c. of the tunica Jacobi or *internal* layer of the Retina; it should be *external* layer of the Retina.

THE INDIA JOURNAL

OF

MEDICAL AND PHYSICAL SCIENCE.

VOL. III. OLD SERIES.] OCTOBER 1, 1836. [VOL. I. NEW SERIES. NO. X.

ON THE HABITS OF THE COBRA DE CAPELLO.

To the Editor of the India Journal of Medical and Physical Science.

DEAR SIR,—Among the various subjects, on which I have had the honor to address you, I believe there is none so likely to interest your readers more, than the one on which I am about to speak. We almost daily hear of deaths occasioned by "snake-bites;" and the creature, on which I mean to make a few observations, is principally accused for a large share of this mortality. The habits of this malignant reptile make the chief object of my present consideration. I have never seen the cobra de capello (serpens Indicus coronatus) of more than two colours: the one is an iron brown, the other copper red set with white specks; although I have destroyed with my own hand 10 or 12 of them. They invariably inhabit dry places, such as ruined buildings, and hollow trees. They are much averse to moisture, and, if forcibly driven into water, keep the surface. Slow in movement, except when in play with the male or roused by annoyance. They are abroad during the summer and rainy months, and very animated at any time when heat and moisture are active in the atmosphere. Some time ago, in the month of March, I had my attention directed to a number of eggs of this serpent. To the touch the shells were elastic; on being broken the young were found in a thin, whitish-yellow liquor. To speak from my own experience, I have never seen these snakes longer than 6½ feet. Nor do I think they assail, unless trod upon or disturbed in some other manner. Their love for dryness renders them exceedingly mischievous; and they make no scruple to sneak into a parlour on a rainy evening.

I will give you two instances of their fury, from my own knowledge. Having seen one creeping over a brick *pavement* (about 3 feet long), I hastened with a sword to do the *gentleman* a service, almost certain of delivering the youngster from the pains of this miserable life; but, I can assure you, he almost delivered me: the sword snapped in two by striking rather obliquely, and he turned upon me, dragging the broken end of his body. Another time I met one at the entrance of a hall (about 18 inches long): having struck it with a stick, by way of inculcation, he bit it with signs of unmanageable fury. Hoping, sir, that this summary description of the cobra de capello will be interesting to your readers and yourself,

I remain yours,

J. GUTHRIE.

Sulkea, July 7th, 1836.

TREATMENT OF SNAKE-BITES,

BY T. E. BAKER, ESQ,

Surgeon 10th Light Cavalry.

To the Editor of the India Journal of Medical and Physical Science.

SIR,—In the last number of your Journal, there is a case of snake-bite by Mr. Baddeley, successfully treated by blood-letting and cold effusion.

The case would have been more satisfactory, had the description of snake been mentioned; for without this knowledge, the efficacy of the treatment is doubtful, and the reasoning inconclusive.

Mr. B— says, "the following morning, there was slight pain in the wound, which was œdematous."

Now I have seen this œdematous state from the bite of a green snake, the *hurrial* (the *podia pam* of Russell), which is poisonous, and the bite of which will kill a fowl or small animal, but is never fatal to man. Was the servant, alluded to by Mr. B—, bitten by a snake of this description?

During a period of twenty years, I have seen but few cases of poisonous snake-bite

One was by a cobra de capello, and two by the large black *kerite*. These cases were successfully treated by dram doses of ammonia, or eau-de-luce, mixed with an ounce of water, and repeated every ten or twenty minutes, according to the urgency of the symptoms; a ligature* was applied above the bitten part, and in one case the wound was cut, washed, and burnt with lunar caustic. In these cases, the pulse, instead of being "full and strong," was quick and weak.

Mr. B—says, "the symptoms resemble entonic apoplexy, and appear to produce death by effusion on the brain; and should this be the fact, stimulants must have a pernicious tendency."

We are at present very ill informed as to the nature and action of the poison of snakes; and the subject is deserving of the greatest attention: our practice is empirical, and we have no fixed principle for our mode of treatment. The Tanjore or arsenic pill, ammonia, brandy, and warm madeira are decided stimulants, and the treatment appears to be generally successful.

Dr. Butter, when at Goruckpore, was very successful in his treatment, which consisted of dram doses of laudanum mixed with peppermint, and an ounce of brandy and two of warm water; he thought the laudanum acted as a stimulant.

A few years since, when at Mhow in Malwa, I met with some snake-catchers from the Dukhun. They shewed me the root of a jungle plant (the name of which I now forget) they were in the habit of using, when bitten by a poisonous snake; the effect of which was to cause vomiting, and, by thus exciting the action of the heart, may have acted as a stimulant. But the remedy, in which they appeared to place their chief reliance, was the actual cautery, *always ready to be used*. They had a piece of iron made in the shape of a large tenaculum, the point being the same curve as the largest fang of the cobra de capello, or of the *katuka retula poda* of Russell—a snake common in that part of the country.

This iron was always kept heated in a small pot of live charcoal, which, the snake-catchers informed me, was immediately inserted into the punctures, and no ill effect ever ensued from the poison.

The treatment appeared to me so judicious, that I had a similar piece of iron made up, and which I can immediately heat over the flame of an Argand lamp, if necessary. Hitherto I have had no opportunity of using this cautery; but I beg leave to recommend the subject to the attention of my medical friends.

Muthra, July 9, 1836.

* Tourniquet.

CASE OF STONE IN THE BLADDER OF A CHILD FOUR YEARS OLD.

By F. H. Brett, Esquire.

To the Editor of the India Journal of Medical and Physical Science.

James Diggs, æt. 4,—a remarkably fine European child, of very fair complexion. His parents brought him to me from Delhi to Meerut, when he was only 3 years old; but, apprehending convulsions by so serious an operation, from the highly nervous excitability in a child of that tender age, I advised them to defer the operation; which they did till the following cold season, when they brought him to me at Cawnpore.

The pain attacked him by paroxysms of intense agony, which would last for 2 or 3 days, during which his mother feared convulsions. Intervals of complete absence of pain would occur for a fortnight. Though a remarkably plethoric child, these attacks would, in the course of 48 hours, reduce him so considerably, as greatly to alter his appearance. In the intervals the natural resiliency and strength of his constitution almost as rapidly restored him to flesh and high colour! These alternate states of acute suffering and complete ease continued for 2 years. Nothing further was remarkable; all the ordinary symptoms of stone were manifest in a high degree.

The operation was attended with no difficulty or delay. The stone was seized lying towards the pubic region, and with *a slight resistance* yielded with a snap, as though some slender point had been broken off. Introducing my finger, and directing it towards the direction from whence the stone was extracted—the pubic region, I distinctly felt a point of calculus sticking in the coats of the bladder. I immediately stated to the professional man present my conviction, that a neck or peduncle was encysted, having, enveloped in its mucous coat, become insinuated between the muscular fibres of the bladder, and forming a cyst or hernia. I requested Mr. Assistant Surgeon Lightfoot to satisfy himself on the point, which he did. I then observed that we must suspend all further interference for the present. To attempt to extricate the encysted portion would be fraught with danger; that, "a meddlesome surgery, was as dangerous as a meddlesome midwifery," in the language of Professor Blundell; that the "opération en deux temps," might be requisite; but that I should be disposed rather to leave the result more to the effects of nature anticipating, that the remaining portion might not improbably be extricated, by the natural process of ulceration, and drop into the cavity of the bladder.

The child was immediately removed from the table. The operation, and consultation on the case, had occupied about four minutes. The circumstances were fully explained to the friends by the professional gentlemen present.

The result fully corroborated our anxious expectations in this interesting case.

The encysted portion dropped on the bed on the 3rd day, having been carried out by a jet of urine through the wound.

The child recovered, without any unfavorable symptom, and on the 8th day I found him playing on the verandah with his brother. A few days afterwards he was able to return to Delhi, from whence his mother wrote to inform me of his arrival, adding that he was in the most perfect and robust health.

Messrs. White, Toke, Campbell, Ransford, and Lightfoot were present.

Remarks.—The expediency of avoiding all attempts to complete the operation in all cases of accidental difficulty is, I imagine, fully illustrated in the above case; and there is no operation in surgery in which more unforseen, and consequently unavoidable, difficulties arise than in lithotomy. There is a natural reluctance in the surgeon, on whom the credit and responsibility of the operation depend, to allow it to remain incomplete; and hence the moment of hesitation and reflection once having passed, some of our most celebrated surgeons, *occasionally*, and young surgeons, *frequently*, have involved themselves and patients in the most lamentable consequences. I claim no credit to myself, however, in this instance. The obstacle was discovered easily; the mode of procedure which ought to be adopted was perhaps palpable, and I had also the advantage of intelligent advisers to confirm my determination of what was "*not to be done.*" There is a momentary agony of mind in these critical cases, which it is difficult to describe.

The case was a fortunate one, for the mucous coat of the bladder was decidedly injured; I felt the edges jagged at the point of fracture: cystitis was therefore more likely to have occurred, which, baron Boyer states, "est la cause de la mort des trois quarts des malades qui succombent a la suite de l' opération de la taille."

The figure represents the form and dimensions of the calculus.

HOSPITAL PRACTICE.

2ND OR QUEEN'S ROYAL REGIMENT,

By R. H. A. Hunter, Esq.

CASE OF J. CARTY.

(Continued.)*

Our talented correspondent, Mr. Hunter, has appended the "Case of Phthisis, with a view to illustrate the connection that exists between tuberculous deposition in the lungs and that in every other part of the body." He states that he has two others at present in the hospital; one of which would shew its connection with tuberculous (scrofulous) disease of the axillary glands and thoracic parietes; the other, perhaps, still more interesting, would shew also the abdominal tuberculous disease (strumous dyspepsia, enteritis), &c, alternating with white swelling of the knee-joint. These Mr. Hunter has promised to send us at a future period. We are requested to state that Mr. Hunter uses the words, "tuberculous," and "tubercular" in the present most extensive signification: tubercles he confines to the lungs; tuberculous affections to the knee-joint.

This patient, after the period referred to, continued without manifest alteration of symptoms, till ten days ago, when his respiration became more distressed, and the pain in the left shoulder, arm, and mammary region, more urgent. He seemed, however, to be rather improving again, when suddenly, whilst in bed, about 4 P. M. of the 18th instant, he gave a groan, followed by one or two full inspirations, and expired. With regard to the physical signs, the chief alterations were the more marked deficiency of resonance, the stronger impulse, and weaker bellows' murmur. Latterly we thought we could perceive the impulse by the sight and touch, but this may have been in some degree imaginary; for after the sternum had been raised, the left clavicle sawn off near its scapular extremity, and the ribs broken down, though there was a fulness and injected state of the parts, no tumour was observable till all had been removed, including the heart in its pericardium, the descending aorta, œsophagus, and trachea.

June 19th, 7 A. M. Autopsy; no appreciable emaciation. Face and lips pale, and

* See India Journal, for November, 1835.

blanched. True, or sacculated, aneurism of the aorta, of an irregular oblong shape, and size of a large orange, coming off from its left side, immediately beyond the origin of the left subclavian artery, advancing forwards, upwards, and downwards, and compressing the left lung (to which it was adhering by false membranes) and bronchi; the latter of which, in its whole length, it had flattened and rendered inwardly convex, which moderate pressure reduced to a crescentic chink, not more than one-third its natural caliber. Upon this aneurism were engrafted irregular pouches of false aneurism, one of which was adhering to the pericardium, and had ultimately burst into it. Large quantities of bloody serum and coagula were found in that sac; one coagulum alone must have contained about six ounces. This was embracing the lower portion of the heart. The ascending aorta, the arteria innominata, left carotid, and left subclavian were all perfectly healthy, as was also the descending aorta beyond the tumour. The aneurism included about an inch and a half of the length, and about two-thirds of the circumference of the vessel. Beyond the origin of the left subclavian artery, there was a kind of half ring or corrugation, which bounded the diseased part.

The left lung was adhering extensively to the thoracic parietes, but was easily separated by the fingers; the right was more firmly, and required the aid of the knife. Lungs themselves healthy; heart smaller, paler, and softer, than usual; liver becoming granular.

It now only remains for us to analyse the diagnosis; and, in doing so, that we may more fully illustrate the data upon which it was founded, we would premise that the diagnosis in the book, produced at the post-mortem examination, is still more minute in its details. It is dated 16th June, 1835, and again approved 24th July. It is in these words, "Sacculated aneurism of aorta, *beyond the root of left subclavian artery, coming off from its left side*, compressing the left lung and bronchi, and throwing the heart to the right of its natural situation."

The first question then, is, how did the supposition of an aneurism originate? 1st, by the symptoms it was clear there was pectoral disease of some kind; and by the stethoscope and percussion, it was equally clear it that was neither in the heart nor lungs; for the lungs were every where permeable to air, and the sounds and impulse of the heart were natural. There was no bronchophony, pectoriloquy, nor rale; but there was a large abrupt sound and impulse, greater than in cardiac region, under left 1st and 2nd cartilages, synchronous with the systole of the heart and arteries. It was more appreciable without the stopper, because, from its deepness, it was more appreciable by the ear. This sound and impulse were accompanied with a distant bellows' murmur. 2ndly, might it not have been a malposition of the heart! no; the sounds and impulse of that were under the lower portion of the sternum. Did the symptoms tally with the idea of an aneurism! yes. Then, where was it? It was not in the ascending aorta, or it would have been to the right of sternum and superficial; neither was it in the arch, the pulmonary artery, nor innominata, for similar reasons; neither did it implicate the left subclavian, for the pulses at the wrists were equal.

The bellows' murmur was audible above the clavicle; below it, in the axilla, and still louder posteriorly, but not below the point of the scapula, therefore it was above the latter. We knew the left lung was compressed by the distressed respiration in the anterior and lower portion of left chest; that the left bronchi were compressed by the snoring in that situation, and the loss of voice; and that the heart was thrown to the right of its natural situation, by the situation of its sounds and impulse, and by the loud respiration in left cardiac region. We now accounted for the dyspnœa and cough, by the irritation and pressure of the tumour, and by the chest being more crowded than natural. We accounted for the pain in left shoulder, &c. by the pressure on the subclavian nerves; for the dragging sensation in left chest, when lying on right side, by the weight of the tumour dragging by the adhesions it had found; and for the increase of pain in left shoulder when lying on right side, by the weight and increase of pressure on the subclavian nerves. Thus the symptoms confirmed the diagnosis. But, it might be asked, would not any other tumour, lying on the aorta, have accounted for every thing equally well? certainly, except the large and sound, and expansive impulse. In such a case, the former could only have proceeded from the heart, and therefore would have been louder in the cardiac region; and the latter would have been short and sharp, proportionate to the size of the artery.

W. Grounds, æt. 29, a wind-instrument player in the band till October last; 10 years in India, of a sanguine temperament, but slender frame, admitted 18th March, 1836, states that he enjoyed good health till ten months ago, when he caught cold from having got wet, and has ever since been very subject to diarrhœa; that latterly he has also felt rather short of breath, but this he ascribes to weakness; says there is nothing the matter with his chest.

Aspect sickly, and eyes rather sunk; skin cool; tongue large, thick, and lobated; appetite bad; bowels relaxed; dejections white and feculent. P. 88, sharp. Resp. 38. Physical signs—considerable emaciation, most observable over thorax; cartilaginous borders of false ribs arched; abdomen flat; right thorax perceptibly shorter and narrower than left. Resp. high and distressed in left subclavian region; obscure (without expansion) in right semi-puerile and blowing in both mammary regions; fullest in left, more distinct also in left subscapular; bronchophony in right subclavian region; vocal resonance only in left; heart's sounds clear and sharp, audible over all the chest, most distinct in right, even posteriorly; impulse not evident.

Diagnosis. "Tubercles in upper lobes of lungs, particularly the right; also scattered through the lower lobes of latter at least. Tubercular disease of ilium, colon, or both; in two words, "tubercular phthysis."

Prognosis. "Most unfavorable, if the diarrhœa cannot be moderated: if it can by diet and alteratives, it is possible for life to be prolonged, in this climate, for an indefinite period. Upon the whole, however, we may say, death within the year, and very probably within six months."

Got well of the diarrhœa, and was at his own request discharged on the 30th of the same month.

Re-admitted 14th April, the diarrhœa having returned. April 27, bowels still relaxed; dejections white; skin cool. T. large and lobated; brown and dry in centre; moist and clean at edges. Ap. good; pulse 72, small; in the evening, sometimes 90 and upwards. Resp. 28, fuller in left than right chest. Obscure respiratory murmur and bronchophony in right subclavian and axillary regions, high (semi-puerile) in left.

Diagnosis. As before.

Prognosis. "Death within six months."

The regiment moved to the presidency in the end of May.

Bombay, June 3rd. The diarrhœa again increased on the way down from Poonah, but for the last two days has been more moderate. Dejections always white. Complains chiefly of debility. P. 72, small. Resp. 36; no cough. 12, feels weaker every day; perspires much at all times; emaciation progressing; appetite indifferent. Two to four loose white motions daily. P. 88, small; in the evening, sometimes 100. Resp. 32 to 36. Respiratory murmur and bronchophony, &c. as before. 16, Falling off very rapidly since the damp weather set in a few days ago. A marked alteration ever since yesterday morning; collapse of features, enteric. 20th, Facies Hippocratica. Died at 5 P. M.

Autopsy. 6½ P. M. Emaciation extreme. Abdomen. Numerous tubercules masses between the layers of the mesentery, of the size and shape of flattened beans. Mesenteric glands enlarged to size of large peas; mucous membrane of lower portion of ilium and beginning of colon, thick and granular, like the conjunctiva palpebralis in chronic purulent ophthalmia. Rest of colon, not examined. Thorax. A few solitary, hard, gritty, tubercles in left lungs; very numerous over all the right, particularly in upper lobe, and very lower edge of lower; left lung adhering loosely at one part to thoracic parietes, about an inch in extent; right very extensively, and particularly close and firm, in subclavian region; left lung collapsed; right congested with a reddish serum.

The above is a very clear case, and therefore remarks are perhaps superfluous. We may say, however, we were led to the enteric disease, by the diarrhœa, arched border of false ribs, flat abdomen, and general aspect; to the pectoral, by the more marked emaciation over thorax, and accelerated respiration to the tubercular affection by the stethoscope. In upper lobe of right lung, by the want of expansion, and bronchophony in right subclavian region, compared with those in left; to their being scattered also throughout the lower lobes, by the blowing, distressed, and semi-pucrile respiration. That they were in greatest number in the right, by the respiration being much less, full, and by the sounds of the heart being as clear as in the left even posteriorly, shewing the right had become a better conductor of sound, which, taking the other signs into consideration, we inferred, was owing to the presence of tubercles.

From all these, the appearance of the dejections, and evening acceleration of pulse, we inferred that the abdominal affection was tubercular also. Hence the diagnosis, "tubercular phthysis," and the very unfavorable prognosis.

ON THE USE OF THE DEUTO-IODURET (OR HYDRIODET) OF MERCURY.

By John Plane, Esq.
Assistant Surgeon, 11th Regiment N. I.

The following paper from Mr. Plane is exceedingly valuable, in as much as he brings to public notice a remedy for affections which have resisted all previous attempts to cure. We have found in our practice the deuto-ioduret of mercury suc-

ceed in cases of lupus, and syphilitic ulcers, when all the other usual applications in such cases had failed. We shall feel obliged to our correspondent if he will favor us with an account of the cases of gangrene to which he alludes.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—In a small work by Mr. Scott on the "Diseases of joints, &c." the deuto-ioduret of mercury is mentioned as a valuable application in the treatment of chronic affections of joints &c. In 1833, being then in England, a gentleman came under my care, who had laboured under a chronic thickening of the synovial membrane of the right knee for some months: he had had the advice of Sir B. C. Brodie, and had been much benefitted by adhering to his directions. At the time I saw him, the use of the limb was but slightly defective; but he complained of severe pain in the joint at night, which prevented sleep, and much impaired his general health.

He had taken colchicum in several forms (in powder, the wine, and subsequently the acetous extract combined with hyoscyamus), but the nausea, caused by its use after five or six days, always led to its discontinuance. I advised him to apply Mr. Scott's remedy, and the result was highly satisfactory. It not merely removed the pain, which became less and less every night, but rapid absorption of the thickened membrane of the joint followed, and the motion of the limb consequently was more free. An ointment, made of ℥i of the deuto-ioduret of mercury to an ounce of lard, was spread on lint and the joint enveloped by it; over which was passed a roller: at the expiration of half an hour, the irritation created by the ointment was so great that it was obliged to be removed. The skin was found of a scarlet colour: poultices were then applied, and continued till a sound skin was re-produced.

In two cases of tic douloureux confined to the side of the face, the application of the ointment seemed to have the almost immediate power of destroying the severe pain of that disease. The cure was not permanent; but the patients remained free from pain for several days, and on the return of the affection the ointment was again applied with the same happy results.—Since my arrival in this country I have used the deuto-hydriodet of mercury with success, in chronic thickening of the periosteum and enlargement of the sternal end of the clavicle, and in chronic enlargement of the testicle and spermatic cord. In these cases, 15 grains of the deuto-ioduret of mercury to an ounce of simple ointment was the proportion used. The ointment was applied every third or fourth day for a few minutes; it invariably blistered the skin; poultices were used in the interim. The case of enlargement of the testes occurred in a gunner of the artillery, where the usual remedies, in such cases, were not resorted to (Cal. Opii was not given him, or his system in any way affected by mercury); but the cure was left entirely to the local application. The spermatic cord could be traced to the external ring, but neither it nor the testicle was very painful to the touch.—It has been used by Assistant Surgeon Winchester in three or four of the like cases occurring among Europeans, and with the same satisfactory results. I have also used it in recent cases of hydrocele: it caused rapid absortion of the effused fluid.—The modus operandi can be readily understood; it blisters the surface of the skin in a few minutes, and rouses the absorbent to immediate activity, and is in every respect a most effectual counter-irritant.

It is very frequently the fashion to extol a new remedy and to believe it ought and must supercede any other plan of treatment; "yet in a few years," to quote the words of Dr. Bostock, "the boasted remedy has lost its virtue, the disease no longer yields to its power; while its place is supplied by some new remedy, which, like its predecessor, runs through the same career of expectation, success, and disappointment."

I have proposed this new medicine from practical experience of the great benefits to be derived from its use, but am not sanguine enough to believe, it will not meet the fate hinted at by Dr. Bostock. At any rate any thing that promises relief in that terrible disease tic douloureux ought to be tried; and here I think the profession will find a most useful auxiliary to those medicines commonly used in the treatment of that disease.

The deuto-ioduret of mercury is readily made.—Put two parts of mercury to three parts of strong sulphuric acid in a cupping glass (which can always be obtained), and place it in a sand bath strongly heated, so as to excite brisk effervescence; and when the mixture is brought to dryness, a pure sulphate of the peroxide of mercury is the result.

Put this into a mortar and add a sufficient quantity of the hydriodate of potash; that is to say, not knowing the positive quantity, I always add more than enough to decompose the sulphate of mercury—The excess of undecomposed hydriodate of

potash is got rid of by washing the new compound with distilled water, through a filter, the water dissolving it, but leaving the mercurial salt pure.

It ought to be of a bright vermillion colour.

Among the many readers of your periodical I have no doubt I could give the information I require ; namely the cause of dry, chronic, idiopathic gangrene. The disease is perfectly new to me : I have met with four cases since I have been in Cutch, in two of which amputation was necessary; one losing his middle finger, the other the great toe.

The only book I have by me, which gives a good account of the disease, is that valuable work—" Thomson or Inflammation ;" in which cases are mentioned where it was presumed the use of unsound wheat was the cause of a whole family being attacked by this malady. We know that unsound rye, known as the ergot or cockspur in rye, has caused the disease to become frequently endemial in France. May not the grain sometimes eaten by the natives of India be often unsound, and give rise to the disease in question ?—I believe the disease in question is more frequent after an unusual fall of rain. May not the grain at these seasons become unsound from the undue quantity of moisture ?

In the cases alluded to, nothing like obstruction of arteries could be observed, and I have come to the conclusion that dry gangrene is induced " by the action of substances taken into the stomach, which seem to produce it as a specific effect in parts remote from the source of circulation."

J. P.

PLAN OF A BATH-HEATER.

To the Editor of the India Journal of Medical and Physical Science.

My Dear Sir,—The accompanying plan of a bath-heater is so simple and efficacious, that I am induced to forward it to you, in the hope it may be considered worthy a place in your Journal. The advantages of such a portable bath, which is so quickly and effectually heated, need not be pointed out to you.

I likewise take this opportunity to forward you a very ingenious fountain, used as an eye fountain, with plans.

Your's &c.

W.

Calcutta, 18th July, 1836.

SECTION—LEADEN COLLAR.

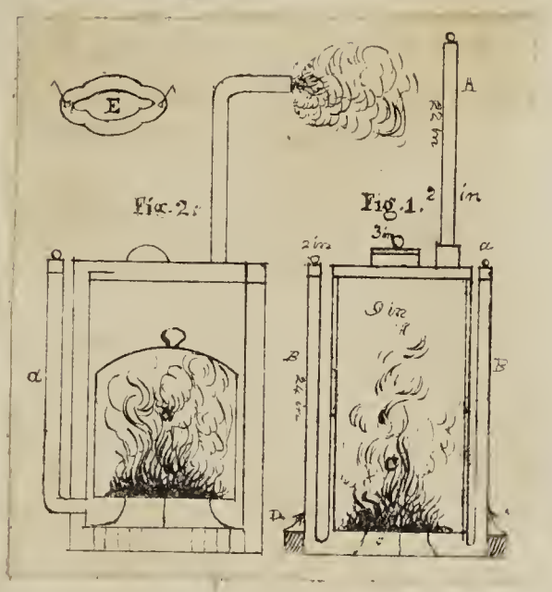


Fig. 1.

A. Chimney which takes off at *a*.
B. B. Inches which supply air below to grate C.
D. Leaden collar shewn in plan at E.

The bath-heater consists of a hollow cylinder of copper, or other metal, closed at the lower and open above ; which stands upon a moveable grate, under which air is conveyed by a tube on each side the cylinder. There is a moveable top to the cylinder, to admit the removal of the grate, ashes, &c. by turning the apparatus upside down. The fire of charcoal is fed through a small aperture in this cover, which, together with the air tubes and chimney, have a lid, by means of which the fire may be regulated or extinguished. The moveable collar E, is of lead, of weight sufficient to sink the apparatus in the bath. Should the air tubes be soldered below, care must be taken to place the apparatus in a tube of water after removal from the bath till cool.

The bath used with the above heater is of tin, of the following dimensions.

Height	2 ft. 2 inches.
Length	2 ft. 2 inches.
Breadth at head ..	1 ft. 6 inches.
Do. at the foot	1 ft. 3 inches.

The bath is fitted with a cover and hinges with lock and padlock, and answers well to hold sundries when not in use. Though the dimensions appear small, it will be found quite large enough for all common purposes. In a journey, by land or water, or on ship board, this apparatus will be found really valuable.

The time required to heat the bath depends on the intensity of the fire, which may be blown up by applying the mould open bellows to one of the air tubes. A bent tube added to the chimney will carry the fume through a jilmil &c.

The following modification seems an improvement in efficiency and cheapness.

If consists of an earthen vessel of the size stated above, which any bazar potter can make, to which the pipe *(a)* is to be strongly fixed, and to which the chimney lids, &c. should be the same as in the one described. This is a bath-heater of simple construction and easy application.

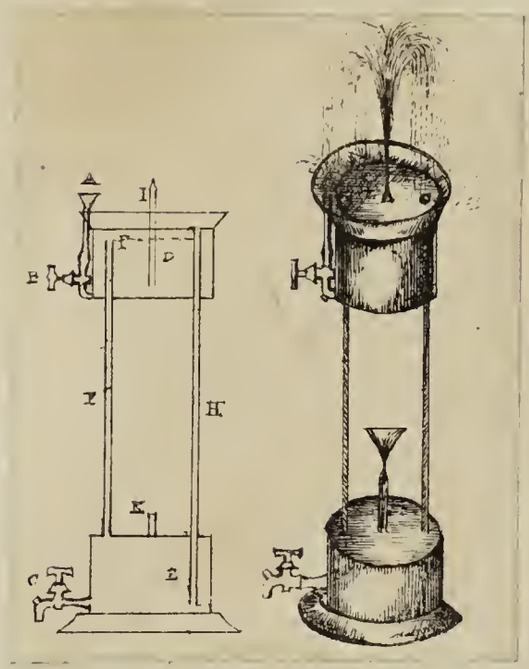


FIG. 2.

Eye Fountain—Water poured through the funnel A fills the close cylindrical vessel D, as high as the top of the tube F. The water then escapes through F, into a corresponding cylindrical vessel E, and runs out at C. The cocks B and C, being then shut, water is poured in at G, which, running down the tube H, into E, forces a column of air up F, which, pressing on the surface of the water in D, forces up a jet through the small tube J. The funnel A is removed and struck into the socket K when not in use.

A TUMOUR EXTIRPATED FROM THE NECK AND FACE OF A NATIVE,

BY DR. MACKINNON, M. D.

To the Editor of the India Journal of Medical and Physical Science.

DEAR SIR,—I send you the accompanying sketch of a tumour which I removed from the neck and face of a native a few days ago. This morbid growth took its rise from over the surface of the left cheek extending down on the neck, to nearly opposite the thyroid cartilage; but in the neck its attachments were luckily comparatively superficial, except behind the angle of the jaw where it dipped deep, doubtless owing to the sterno-cleido-mastoid muscle meeting it there, and not allowing it to extend backwards. The tumour hung pendulous, over the clavicle, as will be seen by the sketch. Raising it up as much as its attachments admitted of, the external jugular vein was visible over the outer and lower end of the tumour erroneously distended.

The surface of the tumour was marked with several cicatrized spots, the effects of attempts to stop its growth. The mass of the tumour felt firm, and it gave no pain save from dragging down. The man usually supported the mass with his hand. He could hardly articulate without so doing.

I began the operation by passing a ligature under the jugular vein at near the lowest point of its pressing over the tumour; I then made an incision along the inner side of the tumour from the highest point of its attachment down, to where I tied the vein. In this cut I left as much skin as seemed sound and free of much attachment to the tumour. The dissecting off the tumour from attachment to the sheaths of the muscles of the cheek was the most tedious part of the operation; and several vessels were cut through which bled furiously. I had here much cause to regret, not having European assistance; for my native assistant lost his presence of mind and could not aid me much in securing the bleeding vessels nor in clearing the wound of blood. When I began the operation it was my purpose to tie every vessel as I proceeded; but, finding that I would not do so well, for the reason given, I changed my plan, and resolved to get the tumour out as soon as possible; and in the meantime I made an assistant press over the common carotid. Behind the jaw the tumour, as already mentioned, went deep, lying close to the parotid gland and the external carotid. My use of the knife was here very cautious, preferring the blunt end of the scalpel, when it answered the purpose. When I reached where the jugular vein had been tied, I found the skin so closely attached to the tumour that I was forced to divide the vein below the ligature. With the same object which I had in view, when I first secured it, viz. to prevent the possibility of air passing in an accident that has sometimes proved fatal* in similar operations I cause pressure to

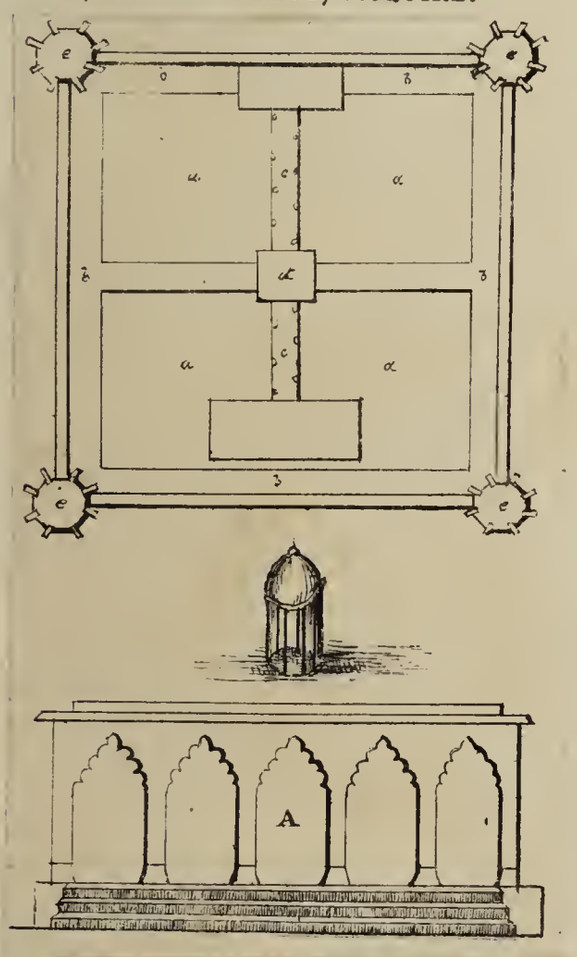
* Vide Dupuytren's chemical reports; and in a late volume of the *Lancet* I observe two cases of this kind reported by an American surgeon.

be made below where I divided it. Ere the operation was completed, the bleedings from the arteries had entirely ceased; I would only find two to take up. This, considering the hemorrhage there was at first, I thought very surprising; I wiped the wound several times with a wet sponge, but there was still no bleeding. I then released the jugular vein, and sewed up the wounds with stitches; considering the irregularity of the tumour, it came very well into contact, and the man has been doing extremely well since the operation. The tumour weighs 6 lbs. It is an adipose sarcoma.

Tirhoot, July 6, 1836.

DESCRIPTION OF THE MOORADABAD NATIVE HOSPITAL.

By F. H. Brett, Esquire.



a a a a. Parterre with trees.
b b b b. Walk.
c c. Walk with trees.
d. Chubootra.
e e e e. Pagodas
f. Elevation of pagodas.
A. Front elevation of the hospital.

The above represents a view of the native hospital at Mooradabad, established by the revenue which results from a shrine in the vicinity of Mooradabad, and which Government permitted the authorities to devote for this benevolent purpose. The original situation in which the sick were received was a small house in the town. I established the hospital in the place now represented for the advantage of comfort and ample accommodation. The natives are extremely fond of such gardens and shady spots, and the combination of gratification to the mind, with free ventilation, is very conducive to the cure of their diseases.

The place had been erected, by a former naib or vizier of the King of Oude, of solid brick masonry, and is in a very durable state though built many years ago. His descendant is still rich, though absorbed in debauchery and apathy at Lucknow. The building had been unoccupied for years, the door-ways closed up with mud and bricks, and the apartments filled with an accumulation of old palanquins, mianas, various trappings and ornaments belonging to the retinue of a native of rank mouldering from neglect, large tents, and purdahs eaten by the white ants. The place was under the care of his agent and neglected lawful wife; and the whole exhibited a melancholy specimen of the numerous instances of fallen grandeur in the East, and of the misery entailed on the patrimony and original family of the many-wived follower of Mahomet.

I had some difficulty in obtaining it. It was necessary to address him a letter at Lucknow duly besprinkled with gold dust, enumerating his titles, and worded in all the flowery eloquence of the East.

I obtained the whole for 25 rupees a month, which he was glad, I suppose, to have regularly paid to his wife at Moooradabad.

The hospital was in a most flourishing state when I left it. A quarterly report exhibited about 500 patients, with various diseases, treated, and between 6 and 700 hundred vaccinated; numerous surgical operations performed with success of every description ordinarily occurring in India, and many of the medical and surgical cases presenting great interest in a scientific point of view.

The funds, however, were still inadequate; about 200 rupees a month were realized from the shrine.

The medical officer received no remuneration from Government either for the hospital or the vaccine department. Europe medicines &c. were allowed.

The hospital was highly popular with the natives, and the establishment was comprised of the following; viz.

A head native doctor,
2nd ditto ditto,
Native zurrar or dresser for managing the dressing of surgical cases, wounds, &c. &c.
Native suteea, whose exclusive occupation was that of dressing and managing all the opthalmic cases, and operations on the eye,
Vaccinator,
Cook,
Bheestie,
Sweeper,

The following contingent expenses were usually incurred,

House rent,
Bazar medicines,
Dieting the indigent,

Charities and clothing to the discharged who were indigent, &c. &c.

The institution was originally established, I believe, by Mr. A. M. Clarke, my predecessor as civil surgeon there, in co-operation with some of the authorities. The only credit, if any, which I could pretend to, was that of selecting the building now appropriated for the purpose, and extending the benefits whilst myself in charge, and looking to all the interior arrangements and details.

It is, undoubtedly, by such institutions as these that the benign influence of the British Government is experimentally felt by the natives of India; it is by such measures that the attachment, the confidence, and the respect of the natives are gained; and I have no hesitation in saying that none could establish the popularity of the present Government more eminently.

How numerous are the shrines, and how extensive the revenues derived from them! It is not my province to say any thing of the propriety or impropriety of the British Government appropriating them; but if they must be appropriated, how desirable that a portion of them should be allotted for hospitals all over India!

Similar buildings abound in all the principal populous cities of Hindoostan.

AN INQUIRY INTO THE FUNCTION AND CONNECTION OF THE EXTERNAL LAYER OF THE RETINA, OR MEMBRANA JACOBI.

By P. F. H. Baddeley, Esquire.

From the peculiar sympathy existing between the retina and those parts of the orbit, supplied by nerves, originating from the same source from which the ciliary nerves are derived, I was led to imagine that a direct anastomosis between the two systems of nerves might exist; and, in consequence, was induced to make some minute dissections and microscopical observations, on the intimate structure of the parts, which have confirmed me in this supposition, and enabled me to demonstrate the existence of this connexion, I think, beyond a doubt.

The following is a summary of the method pursued.

A portion of a ciliary nerve, as it was given off from the lenticular ganglion, was first made the subject of examination, and found to consist of minute bundles of fasciculi, further divisible into fibrils, of an irregular and diaphanous substance, disposed in a longitudinal direction, and supporting along their course rows of globules varying in minuteness from $\frac{3}{4}$ of the size of a globule of human blood till they became scarcely visible, even under a powerful microscope *(Vide figure* 1*)*.

One of the ciliary nerves, from between the sclerotic and choroid exhibited the same structure *(Vide figure* 2*)*.

These nerves, after having pierced the ciliary, pass onwards to the iris, where they form an intimate plexus with each other.

A portion of the ciliary ligament was next subjected to examination, and found to possess precisely the same character, as that observed in the ciliary nerves; except that the fibres were not always disposed with the same regularity, but were more interlaced *(Vide figures* 3 and 4*)*.

It appears then to be a circular ganglion, formed by the union of twigs from the ciliary nerves, which thus becomes a centre for the general reception of impressions and sensations, and consequently establishes an uniformity of action in the functions over which it presides.

Much variety of opinion still exists as to the real structure and use of this ciliary ring, some supposing it to be a mere ligamentous bond of union between the two coats; while others consider it to be tendonous or muscular. Sœmmering however seems to have entertained a notion of its nervous structure similar to the one which I have formed, and named it "annulus gangliformis."

From the repeated examinations I have made of this part all tending to the same result, there is no doubt in my mind that this opinion is correct.

I next observed, on removing the black matter from the ciliary processes, that a profusion of light coloured fibres passed off from the internal surface of the ciliary ligament, which, penetrating the substance of each process, were connected with the delicate membrane that forms their covering, viz. membrana jacobi.

These fibres were found on examination to possess all the characteristics of the ciliary nerves, but the medullary matter was more distinct (Vide *figure* 6).

A portion of that membrane which lines the internal surface of the ciliary processes, viz. membrana jacobi, was then examined and the identity of the nervous structure of both substances (viz. membrana jacobi, and fibres derived from the ciliary ligament) was immediately detected; the medullary pulp and the peculiar arrangement of fibres supporting globules were in both cases precisely similar (Vide *figures* 7 and 8*)*.

This last named nervous expansion (membrana jacobi) inverts the ciliary processes, anteriorly, as far as the coat of the iris, where it is too intimately connected to admit of separation (Vide *figures* 12, 13, and 14), and at the termination of them posteriorly, it is closely connected with the retina, and, forming its external layer, is continued backwards to the entrance of the optic nerve, where in all probability it terminates.

I am led to form this conclusion, because the nervous matter of the latter seems to occupy this spot entirely, and does not appear to possess exactly the same structure and arrangement as might be expected, were the former incorporated with it.

In some animals, this external nervous layer (membrana jacobi) is intimately adherent to the fibrous tunica rayschiana, particularly at the posterior part of the globe,

Fig. 1. a Ciliary Nerve magnified

Fig. 15. A few fibres from the Membrana Jacobi of the Ox_ Mag.d

Phil. Trans.

Fig. 9 — A portion of the external layer of Membrana Jacobi mag.d. Horse.

Fig. 2. Ciliary nerve magnified

Surface of the Ischiatic processes Magd. Horse

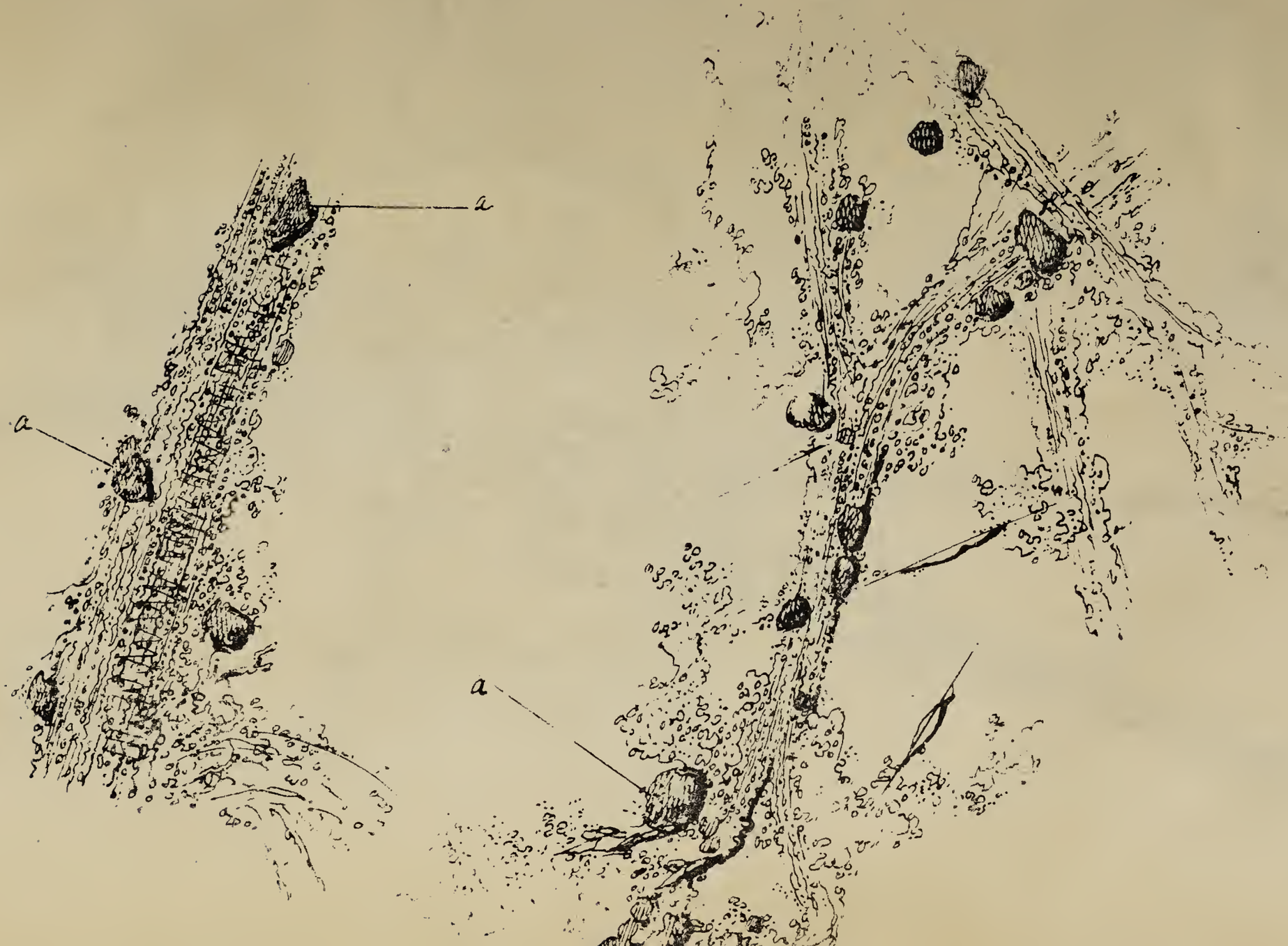


Fig. 3. A portion of the Ciliary Ligament or Annulus Albus magnified. Ox

Fig. 4. A portion of the Ciliary Ligament of Sheep.

Fig I. A portion of the Membrane covering the internal surface of the Ciliary Processes - magnified - Sheep

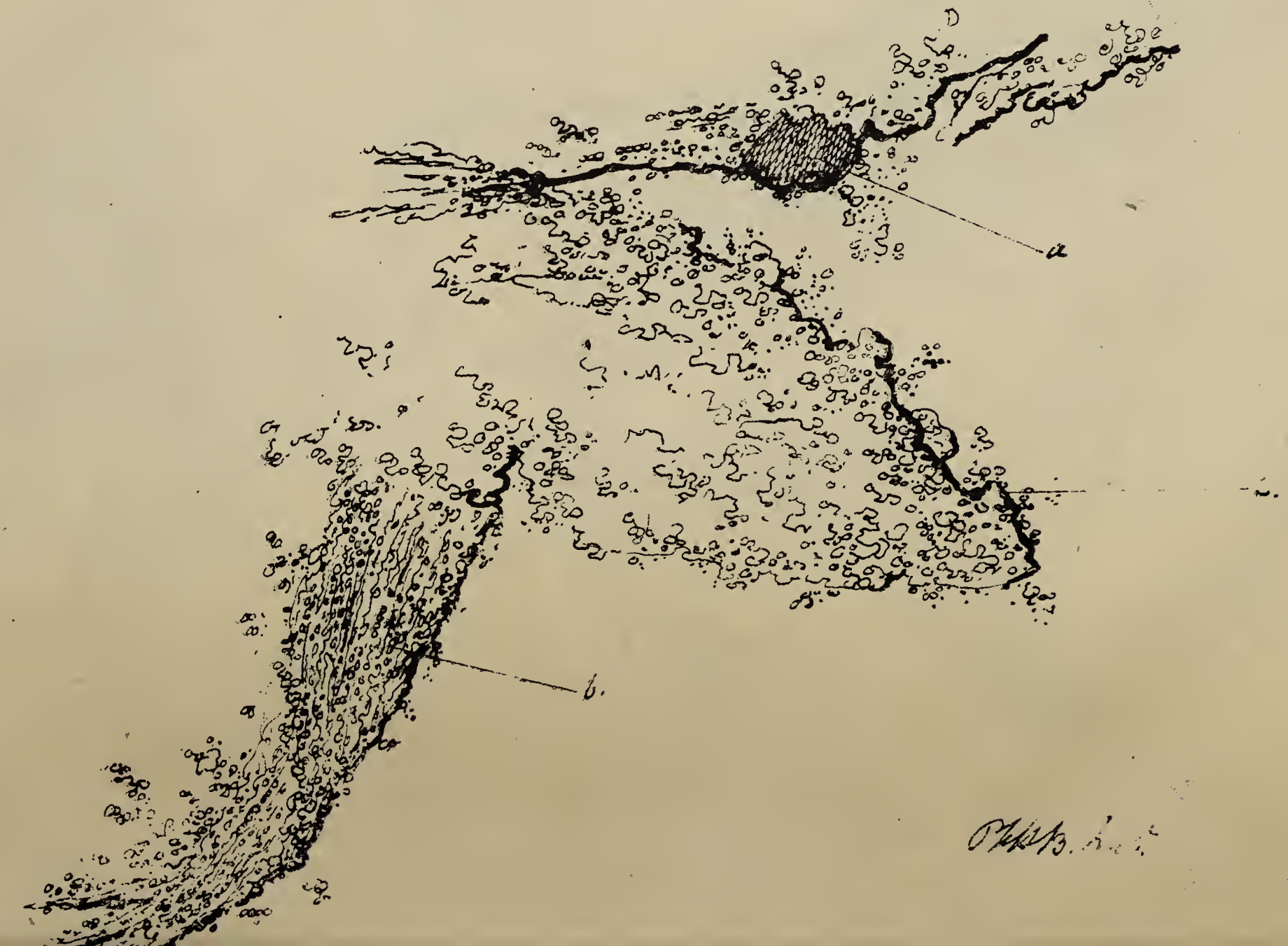


Fig. 5. A portion of the internal medullary layer of Membrana Jacobi magnified.

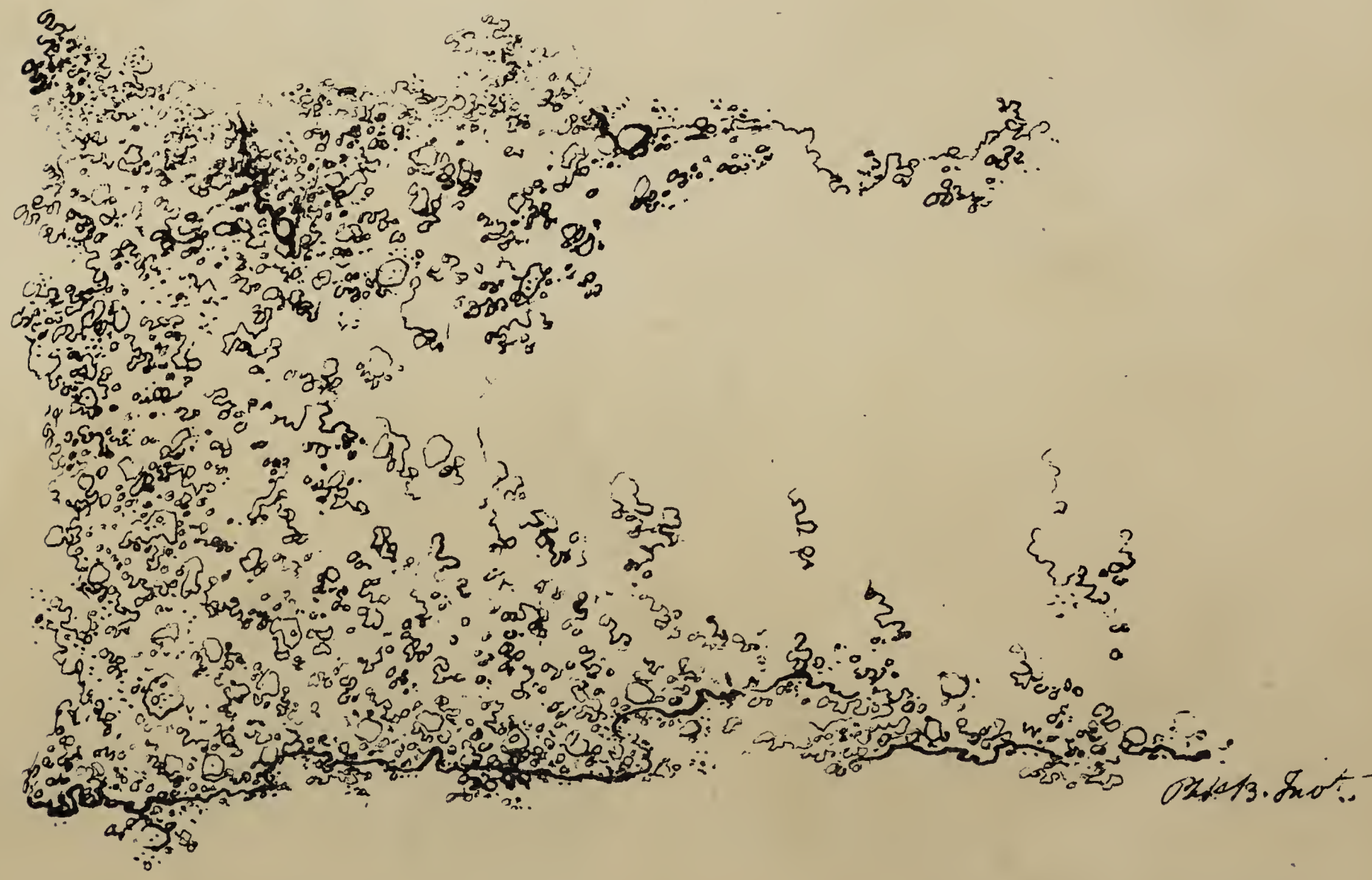
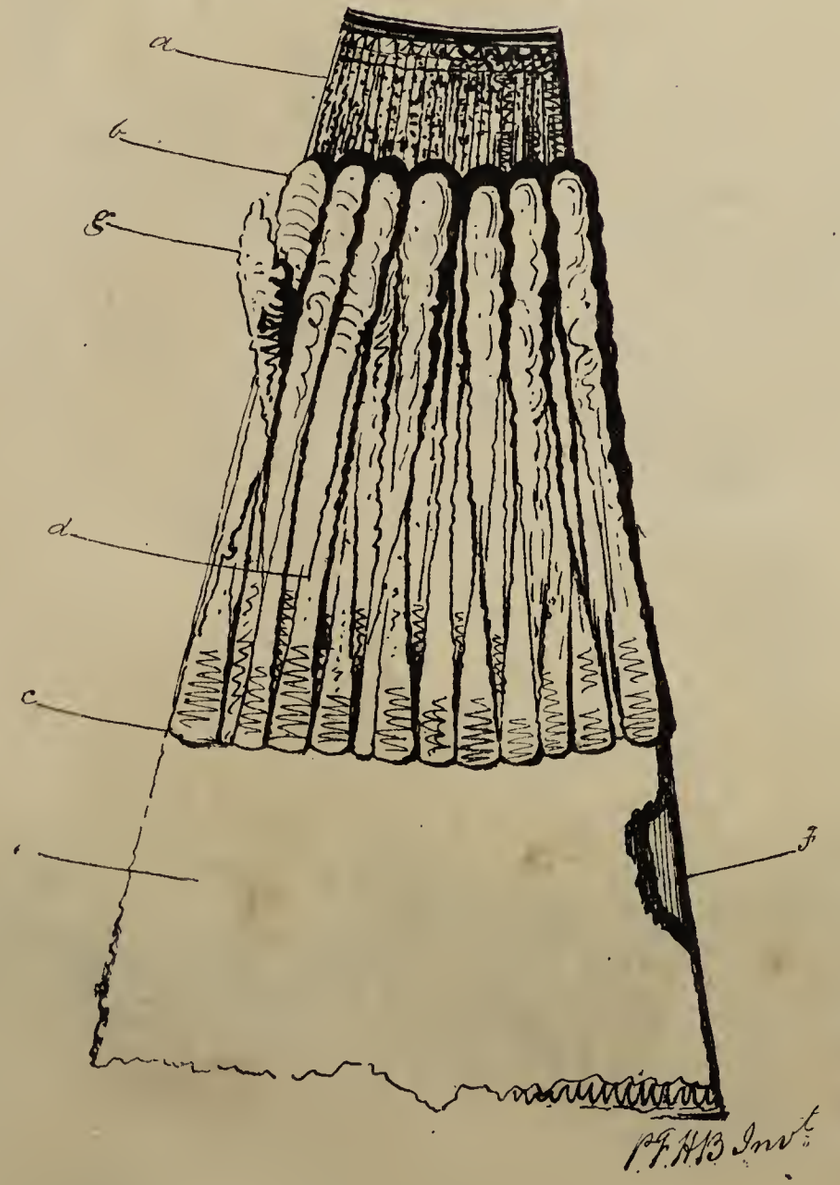


Fig: 6 A portion of the nervous Fibre proceeding
from the Ciliary Ligament mag.d

0. A portion of Membrana Jacobi. Ox. Mag.

Fig. A portion of Membrana Jacobi. Sheep. Mag.

Fig: 14



P. H. 13 Inv.t

Fig 12.

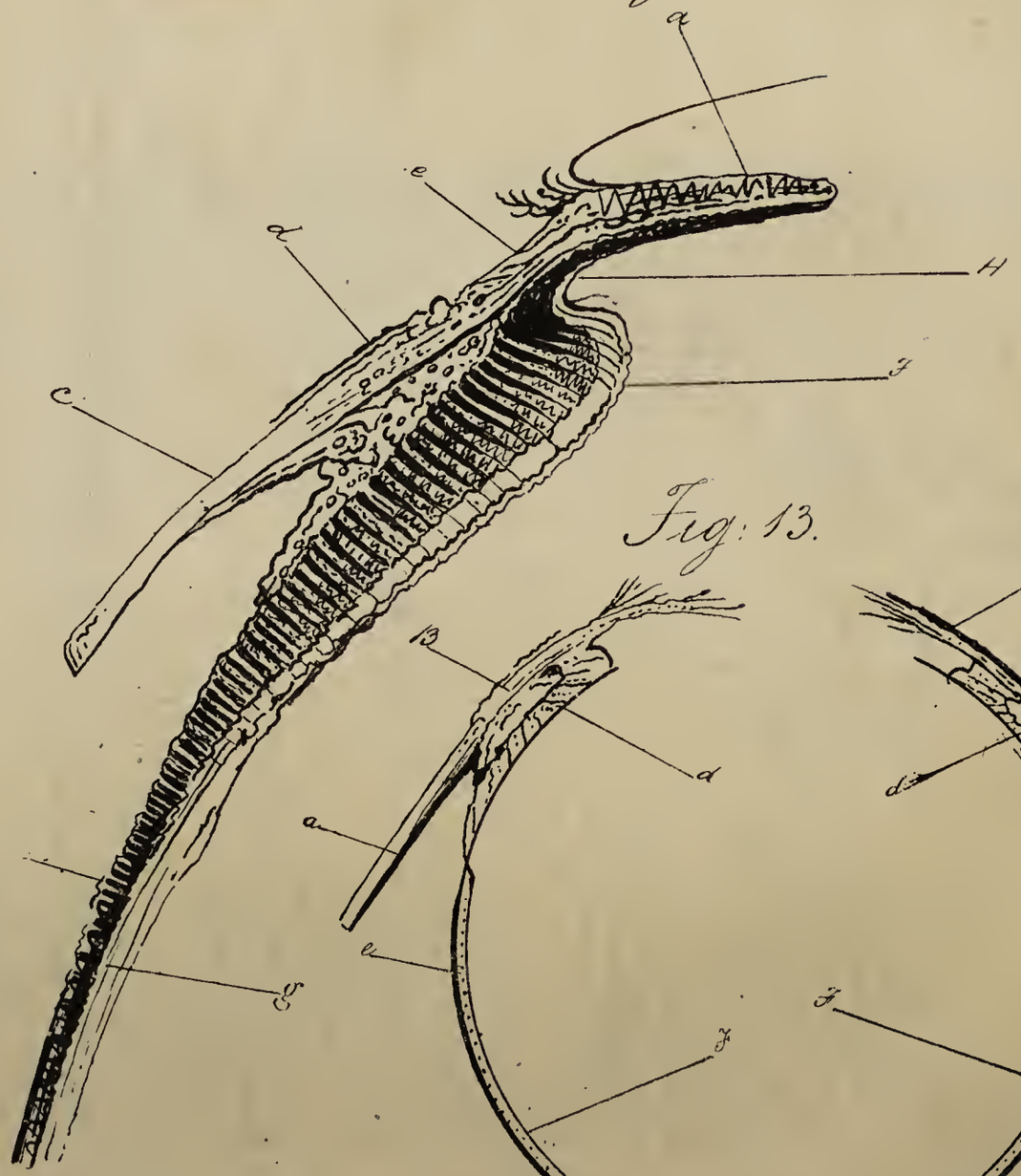
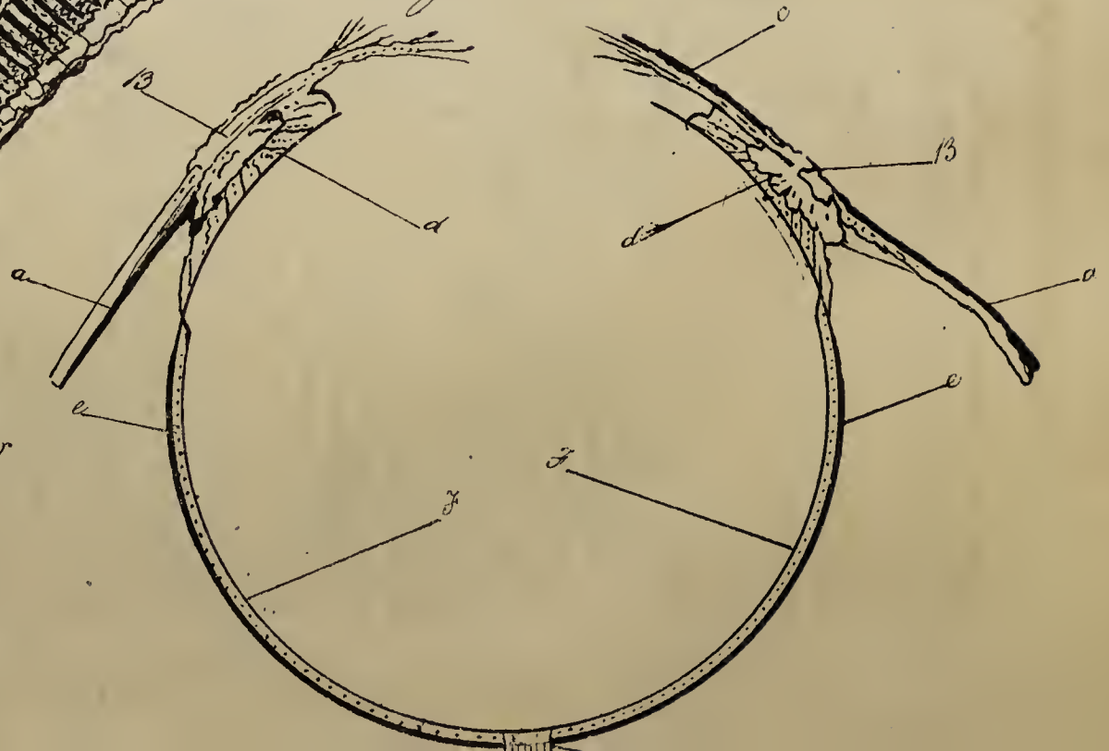


Fig: 13.



and possesses distinctly the fibrous structure as well as the medullary pulp seen in the membrane covering the ciliary processes *(Vide figures* 5, 9, 10, and 11, 15*)*.

I am disposed to infer from this, that the *external* layer is alone susceptible to the impressions of *light*, and, by its varied connections, tends to establish and keep up a uniform consent and sympathy in the actions of all the parts connected with the motions of the organ of vision; while the true optic expansion, the special nerve of vision, transmits the perceptions to the brain.

Many phenomena, connected with the structure, disease, and injury of these parts, will, I think, serve to strengthen this idea; a few of which I may now mention.

It is observed that the perfection of vision is immediately dependant upon the integrity of the branches of the 5th pr. of nerves and by the section of them, the animal is instantly blinded, even whilst the optic nerve remains uninjured. The iris and globe of the eye are, in this case, paralysed, and remain motionless, and the eye becomes insensible to all stimuli.

If the optic nerve be divided, vision is equally destroyed; and if carefully performed, the motions of the iris would probably still continue to be affected by the variations of light.

In certain forms of amaurosis, where the patient is totally blind, both pupils, according to the intensity of the light to which the eyes are exposed, vary in diameter exactly as in health: here the optic nerve or thalami would, I think, be found diseased, while the ciliary expansion and nerves still continue their healthy action.

That part of the retina, corresponding to the entrance of the optic nerve, is insensible to vision. Allowing that the membrana jacobi terminates here, and that it is the coat so sensible to the impressions of *light*, we shall have at once a solution of this phenomena.

In inflammation of the iris, choroid, or retina, we have photophobia, or augumented sensibility to light; and these textures, supplied from the same nervous source, act in concert to exclude the painful stimulus.

In some animals, in which the eye is rudimentary, and the optic nerve is wanting, the deficiency is compensated by a branch of the superior maxillary; and it is probable that, in these cases, the eye is sensible only to the undulations of light, while the forms, size, and relations of bodies, are ascertained by some other sense.

The transmission of the galvanic influence through the facial nerves, giving rise to the appearance of flashes of light, may be adduced in support of this doctrine of the direct communication of the ciliary nerves with the membrana jacobi, and of the similar mechanical impression induced by different imponderable physical agents.

By attention to the above considerations we may, perhaps, acquire new powers of discriminating symptoms, and be better enabled to distinguish between functional and organic derangements of the eye and its appendages; instead of being involved in a mist of conjecture and hypothesis.

I may here add that the examinations have been made upon the eye of the horse, ox, and sheep, between which however and the human eye there is a strict analogy; and that spirits of wine and a weak solution of sulphas ferri were used to harden and render opaque the nervous matter.

EXPLANATION OF PLATES.

FIGURE 1

Represents a portion of a ciliary nerve as it is given off from the lenticular ganglion.

FIGURE 2

Represents a ciliary nerve from between the sclerotic and choroid.

FIGURES 3 AND 4

Represent a portion of the ciliary ligament or annulus albus in the ox and sheep.

a. a. diaphanous fibres.

FIGURE 5

Represents a portion of the internal medullary layer of membrana jacobi in the ox.

FIGURE 6

Represents a portion of nervous fibre proceeding from the ciliary ligament or annulus albus.

FIGURE 7

Represents a portion of the membrane covering the internal surface of the ciliary processes in the sheep.

a. pigment nigrum. *b.* fibrous structure. *c.* medullary substance.

FIGURE 8

Represents the same membrane in the horse. *a. a. a.* pigmentum nigrum.

FIGURE 9

Represents a portion of the external layer of the membrana jacobi in the horse.

a. a. a. internal medullary layer of membrana jacobi. *b. b.* external fibrous layer &c. &c.

FIGURES 10 AND 11

Represent portions of membrana jacobi in the ox and sheep.

a. a. medullary layer. *b.* fibrous layer. *c. c.* tunica rayschiana.

FIGURE 12

Represents a ciliary process and nerve.

a. iris; *b.* choroid; *c.* ciliary nerve; *d.* ciliary ligament or annulus albus; *e.* continuation of the ciliary nerve to the iris; *f.* membrane formed by nervous fibres from the ciliary ligament; *g.* continuation of the membrane over the choroid; *h.* attachment of the membrane anteriorly to the coat of the iris.

FIGURE 13

Represents the anastomosis between the two systems of nerves.

a. a. ciliary nerve; *b. b.* ciliary ligament or annulus albus. *c.* continuation of the

ciliary nerve to the iris. *d. d.* fibres from the ciliary ligament forming the membrana jacobi; *e. e.* membrana jacobi; *f. f.* expansion of the optic nerve or retina, closely attached to membrana jacobi at *h.*; *g.* optic nerve. *h.* supposed termination of the membrana jacobi.

FIGURE 14

Represents a portion of the iris and ciliary processes in the horse.

a. iris; *b.* anterior margin of the ciliary processes; *c.* posterior margin of the ciliary processes; *d.* membrana jacobi covering the ciliary process; *e.* continuation of the membrane over the choroid; *f.* choroid; *g.* a portion of membrana jacobi torn off a ciliary process.

FIGURE 15

Represents a few fibres from the membrana jacobi of the ox, composed of a diaphanous substance, the smallest visible fibre being about the $\frac{1}{10}$ of a globule of blood in size: they have the appearance of strings of beads, but do not appear to be tubular.

OF THE DETERMINATION OF THE DIFFERENT KINDS OF SCAPULO-HUMERAL DISLOCATIONS, THEIR PATHOLOGICAL ANATOMY AND THEIR TREATMENT: BY DR. SEDILLOT, SURGEON AND DEMONSTRATOR OF ANATOMY.

Translated from the Journal des Connaissances Médico-Chirurgicales, with remarks,

By F. H. Brett, Esq.

The subject of the following memoir being an exceedingly interesting one, and the author of it a most minute anatomist, and careful observer of nature in her normal state, as well as of every variety of pathological condition, and being also a close and inductive reasoner, its perusal cannot fail to prove both instructive and interesting. I have witnessed instances, where, from erroneous views of the precise situation of the head of the humerus, even where reduction has been effected according to the ordinary principles laid down—severe and protracted pain, and irreparable thickening and consequent diminished mobility of the joint have resulted, portions of the cartilaginous lining being broken off, and becoming sources of serious irritation.

The articulation of the shoulder is formed of two bones; their figures are simple; their connections, and the manner in which they are united, are clearly understood; the muscular powers which move and surround them perfectly known. Let one of these bones become displaced in consequence of external violence, it will be carried in a special direction, and to a certain distance, as the inevitable result of the direction and intensity of the violence sustained. The injury produced in that situation will be almost mechanical, the appreciation of which would not appear difficult; for we can ascertain on the living subject, with tolerable accuracy, the situation of the luxated humerus; elucidate the point still further by experiments on the dead body; and, finally, avail ourselves of cases, where dissection is practicable, to assure ourselves of the true state of the parts; further these luxations are very frequent, and they have excited the attention of surgeons of all ages. It might then, primâ facie, appear superfluous to investigate how many luxations of the shoulder-joint there really are, what is the seat thereof, what disordered conditions are produced, and what are the therapeutic indications resulting from these enquiries. But the fact is, tho' authors have elaborately written, and still more elaborately argued, they have hitherto omitted to look and investigate; moreover, the history of scapulo-humeral luxations is defective in precision and exactness. On the one hand, they admit displacements which have no existence; on the other hand, they confound, under the same denomination, many distinct varieties. Ignorant of the pathological anatomy, and the treatment, and reposing on principles ill established, or based on questionable grounds, unhappy consequences are frequently the result. The only means of arriving at certain data, is to rely on observations and dissections presented in all their details, and to acknowledge no other authority than that of facts. This method slow, but certain, shall be ours.

I think I may venture to say, that, even in the days of Hippocrates, (1) four kinds of dislocation of the shoulder-joint were acknowledged, distinguished into inferior, anterior, superior, and external. Hippocrates did not deny the existence of the

(1) Voice les quatre espèces dont parle Hippocrate: Καθω, ανω, εζω κ̀ εμπροσθεν; on doit en conclure qu'elles étaient déjà admises de son temps (Hip., *de Art.* t. 2. p. 759, s. 1; Vanderlinden, 1669).

three last, but he avowed he had only seen the first species or that downwards.

Galen (1) embraced this division, instead of opposing it like Hippocrates, and he is erroneously supposed to be the author of it.

Ambrose Paré (2) copied it without alteration.

J. L. Petit (3) reproduced, in his turn, the same classification, but inverting the order of frequency of the displacements, and placing, in the first rank, the luxation inwards, whilst he regarded the luxation downwards as very rare; an opinion altogether opposed to received ideas, since some authors, and Duverney (4) in particular, pretended that not only was the luxation downwards the most usual, but that it was the only primitive one.

Desault (5), whose opinion sways to the present day, followed the errors of his predecessors; he circumscribed, like Galen, the glenoid cavity by four lines or borders, one superior, another inferior, and two lateral, one internal, another external; he admitted the primitive displacement of the humerus in the direction of three of these borders, *i. e.* downwards, inwards, and outwards; and another consecutive displacement, upwards.

Boyer (6) took this as his model, and M. Sanson (7), the last author who has fully treated on the subject, has not deviated in any thing from these distinctions.

As the treatment has not much more varied than the divisions, it is evident that we remain nearly at the same point, as in the days of Hippocrates. Ought we then to conclude that this branch of science has arrived at its zenith of perfection? Certainly not; for, notwithstanding a greater number of known facts, we do not understand each other any better respecting the true seat of these luxations, though an essential and fundamental point of their study. Why these discrepancies? (8)

They depend on the vague expressions which authors have used; the words anterior, inferior, upwards, &c. &c., being as ill understood as expressed, and moreover insufficient. These ambiguities might have been avoided by distinguishing the luxations from one another by the difference of their anatomical connections; but the resources of pathological anatomy were necessary for that purpose, which shall now guide us in avoiding the errors of our predecessors, and in discovering to us the route we should take.

We have seen that four species of luxations have, at all times, up to the present day, been admitted, distinguished, in the sense in which they are supposed to be effected, into superior, inferior, anterior, and posterior. Is this division however exact, and ought it to be preserved? I conceive not. The glenoid cavity has not a quadrilateral form, and the four borders which are given it, are as arbitrary as the four luxations that are described.

The dislocation upwards is unanimously regarded as impossible, and yet a kind of secondary or consecutive displacement has been so designated, the seat of which has not been determined, thus casting much obscurity both on the terms and the facts. By the dislocation downwards has always been understood, the escape of the head of the humerus by the inferior border of the glenoid cavity, and its displacement in front of the edge of the omoplate. But this description of luxation is altogether imaginary, as we shall presently shew; and many authors, as Boyer, Sir A. Cooper, and others, have perceived this, since they have avoided speaking of it; but they have employed the same appellation of luxation downwards to indicate another displacement of the humerus, forwards, and within the long portion of the triceps muscle upon the anterior face of the edge of the omoplate; hence a great confusion in the study of dislocations downwards, since the same term represents different displacements, and we are therefore ignorant of the opinion of those who employ it without explanation.

Under the name of luxation forwards, many distinct varieties have been united, and one knows not scarcely how to separate them from luxations upwards, so that the very same displacement is called by some dislocation forwards, and by others, dislocation upwards. Lastly, luxations backwards have been badly studied; they have been explained by pre-existent malformations of the glenoid cavity, and the distinctions have been confounded.

To illuminate this chaos, it is necessary then to enquire, what are the different positions which the head of the humerus assumes in its displacement, and to define with greater precision than has hitherto

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(1) Œuvres de Galien, *Commentaire* de articulis.

(2) Œuvres complétes.

(3) *Maladies des os*, t. I, p. 124, édit. 1789.

(4) Duverney, *Traitement des maladies des os* II, p. 133, édit. 1751.

(5) Desault, *Journal et Œuvres chirurg.*

(6) Boyer, *Mal. chir.* t. IV, p. 174.

(7) Sanson, *Dict. de méd. et de chir. pratiques*, t. IX, p. 232.

(8) Rien n'est plus vague que ce qui a été dit, par presque tous les auteurs, sur les différentes espéces de luxations dont l'humérus est susceptible. Non seulement l'inexactitude, l'ambiguité, et la diversité de leur langage rendent leurs descriptions presque inintelligibles; mais encore, il est évident que la plupart d'entre eux n'ont pas pris la nature pour modèle, etc. Boyer, *loco citato*.

been done. the varieties of dislocations which result therefrom ? Such are the questions which we propose to resolve. We will fix upon the points of the glenoid cavity, from whence the head of the humerus escapes, and this one fact will cut short the question, in a great measure, concerning primitive luxations. We will examine then the different positions of the head of the humerus when luxated, and, when entering into the history of each of these varieties of displacement, we shall study the pathological anatomy, and the consequent principles of treatment resulting therefrom.

This is leading by a logical sequency of reasoning to the point, and is worthy the imitation of every professional writer. Whatever may be the national volatility of our continental neighbours, this propensity is admirably counterbalanced by their being taught strictly to adhere to the prescribed rules of inductive philosophy, in all their professional writings ; so that whereas (if we may so express ourselves) the tangentient force of the one would carry them off into the immensity of space, by the flights of a fertile imagination, the fruitful source of unsupported theories and dogmas ; the counteracting influence of the other has a centripetal effect, and carries them steadily and progressively onward through the fair expanse of nature, and of science.

The glenoid cavity of the scapula is irregularly oval ; it is somewhat narrower above than below, and its greatest diameter is in a vertical direction. Its superior third is embraced by the clavicle, the acromion, and the coracoid apophysis, which form an osseous vault destined to prevent all kind of displacement in this direction ; but should the acromion and the coracoid process be fractured simultaneously, of which I possess an example, the luxation would still sustain an insurmountable obstacle in the presence of the muscles supra spinatus, deltoid, &c. and in the proper weight of the humerus itself. Moreover it has never been observed. (1)

Downwards, the disposition of the capsular ligament, and of the muscles which surround the articulation ; the insertion of the long portion of the triceps ; the oblique direction of the humerus at the moment of its luxation, hinder, as we have said, the luxation from taking place, directly in this way upon the projecting crest of the edge, or spine, of the shoulder-blade.

It follows from these dispositions, that the head of the humerus being neither displaceable directly downwards, nor upwards, in the superior third of the glenoid cavity, it escapes forcibly, and invariably, either forwards, or backwards from this cavity ; and, being compelled to obey this movement, to slide under the coracoid apophysis, or the acromion, it is always situated lower than the superior third of its cavity at the moment of displacement. Hence this important proposition : Every luxation of the humerus takes place by a primary movement of depression of the arm, and can only be accomplished in two ways, forwards or backwards.

Moreover, we only admit these two principal forms of luxations of the arm, to which we also attach a considerable number of varieties.

First form—*Dislocations forwards.* (2)

Seven varieties. All luxations forward take place constantly by a primary motion downwards of the head of the humerus ; moreover the arm commences always by becoming longer, and it preserves this tendency in an immense variety of instances.

(1) Il ne me paraîtrait ni impossible, ni extraordinaire, que dans une chute sur le coude légèrement écarté du corps, ou à la suite d'un choc extrêmement violent, la tête de l'humérus, poussée contre l'apophyse coracoïde, ne la fracturât, et ne la luxât, directement en haut, sous la clavicule ; mais je ne sache pas qu'on en ait jamais cité aucune observation.

(2) Je dis en avant ou en arrière, pour éviter toute ambiguité, et il est peut-être bon de rappeler qu'un grand nombre d'auteurs se sont servis, dans la même acception, des mots *en dedans* et *en dehors* ; ce qui met beaucoup d'obscurité dans le langage, et laisse supposer des differences de faits, là où il n'en existe que dans les termes. La cavité glénoide regardant en dehors, la tête de l'humérus ne peut réellement l'abandonner qu'en se rapprochant de la ligne médiane, soit que le déplacement ait lieu par le bord antérieur, ou par le bord postérieur de la cavité. Dès lors les luxations seraient toutes internes ou en dedans, que la tête osseuse fût dans la fosse sous-épineuse, ou dans la fosse sous-scapulaire ; aussi la division des luxations humérales en externes ou internes estelle fausse, puisqu'il ne peut y avoir de luxation externe ou en dehors proprement dite. Ceux qui out adopté cette distinction croyaient peut-être la soutenir, en disant que la luxation s'opérant par le bord interneou externe de la cavité glénoïde, conserve la dénomination de celui de ces bords, par lequel elle a lieu, mais c'est à tort, car cette cavité n'a pas de bords extérne ni interne, mais bien un bord antérieur et un postérieur, et la tête de l'humérus se place en avant ou en arrière de l'omoplate. Ces motifs doivent faire prévaloir lés dénominations d'antérieure, et de postérieure, en parlant des luxations de l'épaule. On trouvera peut-être cette explication minutieuse, mais quand on pense à la foule d'erreurs, de doutes et d'obscurités qu'entraîne un terme impropre et fautif, on en comprendra l'utilité.

Sometimes, however, this characteristic mark disappears, because the humerus, after having passed under the coracoid process, may remount on the inner side of its internal border, or bury itself between the ribs. The lengthening and shortening of the limb also, although very useful in the differencial diagnosis, would be insufficient as a means of dividing luxations from one another. Again, the head of the humerus, pushed with more or less violence, and in a variable direction, may either quit partially only the glenoid cavity, or abandon it entirely, and remain there resisting against the inferior face of the coracoid process, or else, on the anterior face of the edge of the omoplate, or lastly be carried into the fossa sub-scapularis. Hence the seven varieties.

α. Luxatio partialis, (or incomplete)
β. Luxatio sub-coracoid
γ. Luxatio axillaris
δ. Luxatio sub-scapularis.
ε. Luxatio intercostalis.
η. Luxatio scapulo-clavicularis.
θ. Luxatio costo-clavicularis.

The luxations ζ γ δ present many analogies, but they offer nevertheless important differences. In the first ζ, or sub-coracoid, the head of the humerus is in immediate contact with the inferior surface of the coracoid apophysis, and rests against the anterior border of the glenoid cavity; in the second, or axillary, the head of the bone again is in connection with the neck of the glenoid cavity; but it is at a certain distance from the coracoid apophysis, and rests at the same time upon the anterior border of the edge of the scapula; lastly, in the third γ, or subscapular the humeral head is deeply buried in the fossa and under the muscle of that name. Heister (1) is the only author amongst the older writers, who has spoken of this kind of displacement, of which White (2) has also reported an example; the fifth variety ε, or intercostal, is founded, it is true, upon an unique case, but still deserving of being indicated; the two last species η θ, or sub-clavicular, are distinguished by the head of the humerus remaining supported on the scapula η scapulo-clavicular, or upon the ribs θ costo-clavicular.

Second Form—*Luxations backwards, or posterior.*

Dislocations backwards always take place into the fossa sub-spinale, and their only difference consists in the extent of the displacement; we distinguish them into mediate and immediate.

(1) Heister, *Institution Chirugicales.*
(2) White, *Opusc:* 1764.

A. Immediate luxation. The demi-spheric or articular portion of the humeral extremity is alone situated out of the glenoid cavity in this instance. The large and small tuberosities are situated under the acromion, and the groove or collar of the head of the bone, corresponds to the posterior border of the cavity, upon which the humeral extremity appears immediately to settle. It is not an incomplete dislocation since the whole articular surface is displaced; it is a luxation which I shall designate as immediate (1).

B. Mediate luxation. The superior extremity of the humerus is placed entirely in the sub-spinal fossa, and no longer preserves its connections with the glenoid neck.

It will presently be perceived by investigating successively each of these two forms of luxation, and their varieties, how far Mr. Sédillot is enabled to substantiate his somewhat severe reflection on all his predecessors of "on a longuement écrit, on a longuement disserté, et l'on a negligé de voir;" and if these sub-divisions and varieties are clearly founded upon pathological and anatomical investigations, we shall admit them as tending to important therapeutic results, adopting the principle of Locke of "receiving and embracing every proposi-"tion according as evidence and *that alone* "gives the attestation of truth."

First Form.—*Luxations forward.*

Luxations, incomplete and sub-coracoid, first and second variety (2). In the incomplete luxation the head of the humerus is slightly lowered under the coracoid apophysis, but it still reposes on the anterior part of the glenoid cavity, and has no connection with the glenoid neck. In the sub-coracoid luxation, the head of the humerus has completely quitted the glenoid cavity, and rests supported on the neck of the scapula, and immediately against the inferior face of the coracoid apophysis. This luxation, which forms a sufficiently distinct species, has always been confounded with other varieties; thus Sue and Chopart (3), in post-mortem experiments, produced constantly sub-coracoid displacements, which they termed luxations downwards into the arm-pit;

(1) Monteggia a très bien indiqué cette disposition, qu'il distingue, comme moi, des luxations incomplètes; mais il ne lui a pas donné de nom (*Instit. chirurg.*, t. III, Milano, 1803.)

(2) Nous avons supposé plutôt qu'admis la luxation incomplète, dont l'existence ne nous paraît pas encore absolument démontrée. Les nombreux rapports qui la lient aux luxations sous-coracoïdiennes nous ont engagé à réunir dans un même chapitre ces deux espèces de déplacemens, qui n'ont encore été indiqués que par un très petit nombre d'auteurs.

(3) *Obs. sur quelques mal. des os*, par Sue; Paris, 1803.

Crampton (4), in a very excellent memoir on the pathology of displacements of the shoulder, calls the same injury dislocation forwards; and Astley Cooper (5) gives it the name of partial or incomplete; I mention particularly these authors, because they have observed the luxation which we now are speaking of, and have reported the dissections. Other surgeons have equally alluded to it; J. P. Petit (6) and Boyer (7) are of the number; but they have not considered it in a special manner, as a distinct variety, and hence their history of it is incomplete, and replete with errors. M. Sanson himself (8), whose paper on luxations is more recent, has adopted the doctrine of Desault (9); and, in establishing the signs of dislocation *forward and inwards*, he says: the arm is not lengthened, it is even sometimes shortened. Such uncertainty in the symptoms is truly surprizing in lesions so mechanical as luxations, and one need be still more astonished, as in the sub-coracoid luxation the arm is always longer; other examples might be accumulated, but one is sufficient to shew how desirable it is to introduce precision and exactness, in a subject which admits of, and demands these qualities in an essential degree.

The sub-coracoid luxation is clearly distinguished from the axillary, and sub-clavicular luxations, by the position of the head of the humerus, which has no immediate connection with the coracoid apophysis in the axillary luxation; and is placed, not under, but on the inner side of this apophysis, in the sub-clavicular displacements.

The differences are equally evident between the sub-coracoid luxation, and the incomplete recent luxation, admitted by Messrs. Cooper, (10) Velpeau, (11) and other authors; they result from our definition itself; but if the luxation be examined, long after the accident, one could no longer say, whether the displacement had been incomplete, or sub-coracoid, because the same osseous deformities appear necessarily to result from these two kinds of displacement; the sub-coracoid luxation becoming ultimately the purely incomplete luxation. The pathological anatomy of old luxations cannot then be invoked to decide upon the existence of incomplete displacements of the shoulder, and we must search for other proofs; but before entering into these discussions, let us bring forward some observations, proper to support the preceding propositions, and to elucidate the history of the two varieties of displacements which we are studying.

1st Observation.—*Anatomical examination of an old sub-coracoid luxation, the date of which is unknown, drawn up by M. Manec, chef des travaux anatomiques, of the Hospital of La Pitié, (Vide plates III. IV. V.)* I am indebted to Dr. Manec for this example of ancient dislocation, met with in the body of an old man, conveyed to the dissecting rooms of la Pitié. The previous researches are wanting, and it will unhappily be always the case, so long as it is not enforced as a general measure, to note the subjects which come from the hospitals, so as to know the number of the bed, the ward, and the name of the establishment where the patient died. Invaluable details might thus be procured whether from the functionaries of the hospital, or from the family: so many excellent facts are thus continually lost to science for want of records on the symptoms of disease presented during life, that one may well be astonished such a measure is not adopted, the utility of which is so generally acknowledged. We shall be obliged then to retrace the history of this luxation, by the injuries of position and figure which the parts present to us.

Examination *of the anterior face of the luxated articulation*, (see plate I.) All the muscles have been removed with the exception of their tendons, which have been cut near their attachments. The head of the humerus, instead of being placed between the coracoid apophysis and the acromion, under which it is in part concealed, appears to have undergone a considerable displacement inwards, and corresponds to the base of the coracoid apophysis; its external border is upon the same line as the acromio-clavicular articulation, its internal boundary about four lines from the middle of the clavicle; it is two inches and four lines in its transverse diameter, owing to the flattening which it has undergone; for it not only occupies the anterior side of the glenoid cavity, but it is prolonged still further outwards and backwards over all the glenoid cavity. The tendon of the biceps is untouched, situated on the internal side of the bicipital groove; about two lines of rotation may be measured inwards on the humerus.

The larger tuberosity of the head of the humerus is consequently situated outside of the coracoid apophysis, and the little tuberosity inside.

The tendon of the long portion of the biceps is directed outwards and backwards

(4) *On pathology of dislocations;* Dublin, méd journ., 1833.
(5) A. Cooper, *on dislocations*; London, 1830.
(6) J.-L. Petit, *Mal. des os.*
(7) Boyer, *Chirurgic*, t. IV.
(8) Sanson, *Dict. de méd et de chir. prat.*, 1834.
(9) Desault, *Journal de chirurg.*
(10) A. Cooper, *loco citato.*
(11) Velpeau, *Discours à la societé medicale d'émulation.*

after having traversed the bicipital groove, and passes immediately under the coracoid apophysis where it is flattened, voluminous, and enveloped by the synovial.

A fibrous bridle of two inches and four lines in length by three lines and a half in breadth, extending from the inferior surface of the acromion, from whence it arises conjointly with the acromio-coracoid ligament, to the external border of the larger tuberosity of the humerus, into which it is inserted. It forms with the ligament mentioned below, a triangular space, where the termination of the tendon of the *sub-spinatus* muscle is observed.

The tendons of the short portion of the biceps, coraco-brachialis, and pectoralis minor, are fixed to the coracoid process in a natural manner, and do not appear to have contracted any adhesion to the head of the humerus.

Posterior face. (See plate II.) Viewed posteriorly, the articulation presents very little thickness, which depends on the diminution of the head of the humerus, which is flattened, and prolonged downwards ten lines under the inferior border of the glenoid cavity, the summit of which it does not attain upwards; it presents two tubercles placed the one under the other, which appear to belong to the greater tuberosity; to the first the subspinatus muscle is attached, and to the anterior portion of the second the lesser rhomboid. A fibrous capsule, very dense and solid, extends from the glenoid neck, to this portion of the humerus, in a manner sufficiently compact to admit only of a separation of some lines in extent. The long portion of the triceps, the insertion of which into the scapula is natural, is confounded with this capsule, and sends it some distinct fibres.

Internal face.—In studying the articulation by its internal aspect, the head of the humerus appears entirely lodged upon the neck of the scapula, and in the fossa subscapularis, where it occupies, under and within the coracoid apophysis, a new osseous cavity.

A large fibrous capsule, perfectly formed, embraces all this surface of the articulation, and is continued, with the other portion of the capsule which we have already described, backwards. It is looser below than above, and permits, in this respect, a separation of about an inch.

The tendon of the musculus sub-scapularis is inserted above and below to the extent of more than an inch upon the edge of the capsule, between it and the bicipital groove; it is broad, thin, and very resistent.

Examination of the articulation opened. (Vide plate III.)—The capsule being cut throughout its circumference, we discover that it has preserved its natural attachments upon the humeral neck, and constitutes a single pouch, very regular, and lined with a synovial membrane, which surrounds the entire articulation, is continued over the tendon of the biceps (long portion), and embraces the old and new articular cavities, which are both in connection with the humerus.

The glenoid cavity is, indeed, extremely contracted, especially at its posterior part, where the capsular ligament, and some ligamentous fibres are inserted upon it in a breadth of two or three lines, offering there a considerable resistance and thickness. The glenoid cavity has a pouch of two lines vertically, and six lines in the transverse diameter. A very little of the middle part is covered with cartilage. Instead of being bounded anteriorly by a bony ridge, it is continuous inwards with a new articular cavity, much higher, broader, and deeper, excavated on the glenoid neck, and the fossa sub-scapularis; this new cavity is an inch and a half in height, and ten lines in breadth; its aspect is inwards and forwards, it is covered with a species of cartilage, and it is bounded on the inner side by a bony ridge of six lines in height, which gives attachment to the capsular ligament. The two cavities are united by a longitudinal projecting line, which is covered with cartilages and makes part of the articulation.

It follows from these dispositions that the articular cavity is formed at the expense of the fossa sub-scapularis, of the neck of the scapula, and of the glenoid cavity itself, which is not entirely destroyed, and is found in immediate connection with a portion of the head of the humerus.

The intro-capsular portion of the head of the humerus presents two distinct parts; the one articular and of contact; the other free, and only in connection with the capsule. This last, placed on the internal side, is about an inch broad, and extends under the coracoid apophysis, which it touches by a little rounded surface; its surface is irregular and beset with osseous tubercles, resulting probably from the portion of the head of the humerus which rested upon the musculus sub-scapularis; the articular cartilege is absorbed, and is replaced by a very slight membranous couch. The other portion, or of contact, is clothed, in some points, with articular cartilege, and presents within and without a convex surface in connection with the new cavity, hollowed out upon the glenoid neck and fossa sub-scapularis; then a rather deep depression, destined to receive the projecting crest, which limits the glenoid cavity, and lastly, entirely outwards and backwards, a slender prolongation of the extremity of the humerus, which extends under the acromion, and recovers the remaining free portion of the glenoid cavity.

The head of the humerus, in place of being rounded off and spherical, represents then a

kind of trochlea or pulley, directed upwards and downwards, and articulated by two convex surfaces, and a middle deep groove, with the two concave surfaces of the scapula and the crest which separates them. The kind of articulation, consequently, is entirely changed, and the dislocation appears incomplete.

I shall pursue the subject of Monsieur Sedillot's memoir in the following number of the Indian Journal of Medical and Physical Science.

For which promise and the foregoing-able translation we are certain our readers will join us in grateful acknowledgments. We have many friends who have nobly com forward to translate papers from the French journals; we have a valuable document already translated from "Le Temps" by M. Mathiew, which, for want of space, we are compelled to keep back till our next.

PLATE I.

Anterior and external face of the articulation.

A, Clavicle
B, Scapula and fossa sub-scapularis
C, Head of the humerus
D, Acromion
E, Coracoid apophysis
F, Acromio-clavicular articulation
G, Bicipital groove and tendon of the biceps muscle
H, Accidental fibrous bridle
I, Acromio-coracoid ligament

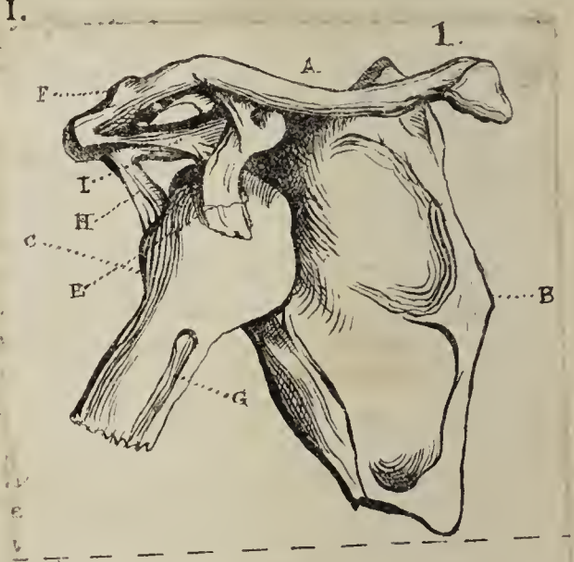


PLATE II.

Posterior face of the articulation.

A, Clavicle
B, Scapula and fossa sub-scapularis
G, Humerus
D, Acromion
F, Coracoid apophysis
F, Accidental fibrous bridle
G, G, Tubercles appertaining to the large tuberosity of the humerus
H, Insertion into the scapula of the long portion of the triceps brachialis muscle

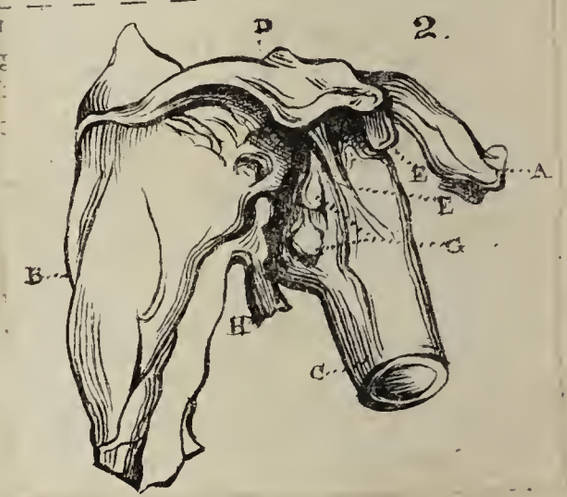


PLATE III.

Articular surfaces of the humerus and the scapula.

A, Humerus
B, Little surface of connection with the glenoid cavity
E, Surface of connection with the new glenoid cavity
H, Osseous border, studded with tubercles enclosed in the capsule, but having no connection with the scapula, with the exception of a little surface which plays upon the coracoid apophysis
I, I, Extremities of a deep groove which separates the two articular surfaces

SCAPULA.

A, Scapula and fossa sub-scapularis
B, Acromion apophysis
E, Coracoid apophysis
F, Contracted glenoid cavity, partly filled up by a ligamentous insertion
H, New articular cavity hollowed out on the neck of the scapula, and fossa sub-scapularis continuous by a simple crest, smooth and soft, with glenoid cavity
I, I, Extremities of smooth crest which separates the glenoid cavity from the new articular surface

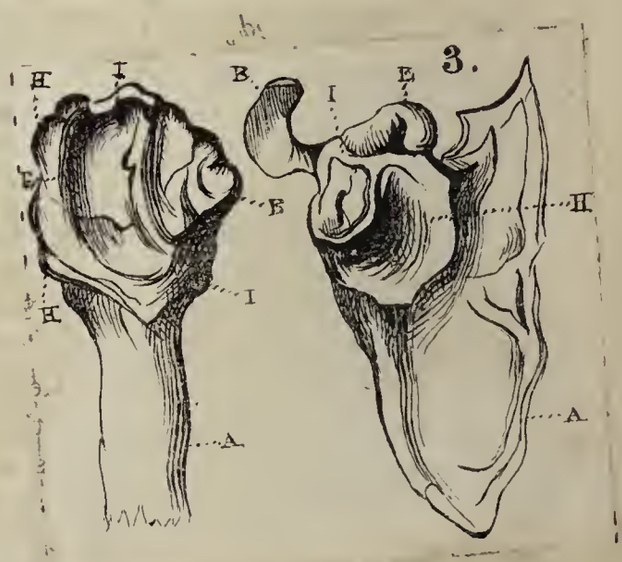


PLATE IV.

Articular surfaces of a luxation, of 21 years' duration.

A, Humerus
B, Scapula and fossa sub-scapularis
C, Acromion apophysis
D, Internal portion of the articular surface of the head of the humerus, which was in connection with the new cavity, excavated upon the neck of the scapula
E, External portion of the articular surface of the head of the humerus, which was in connection with the ancient glenoid cavity
K, Concave groove, separating into two portions the articular surface of the head of the humerus, and receiving the projecting angle of the anterior border of the glenoid cavity
F, Tendon of the long portion of the biceps
H, Posterior glenoid cushion partly ossified
I, Glenoid cavity
J, New articular cavity

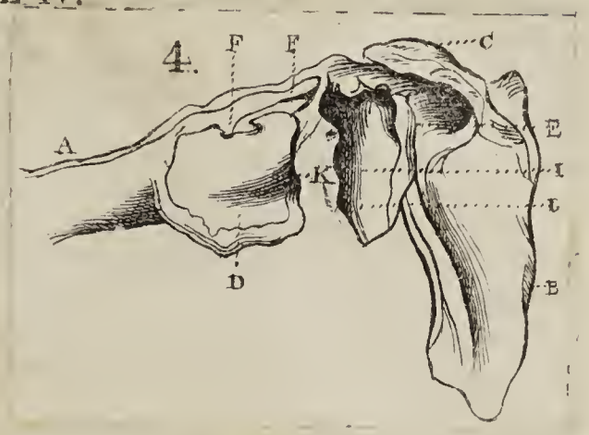
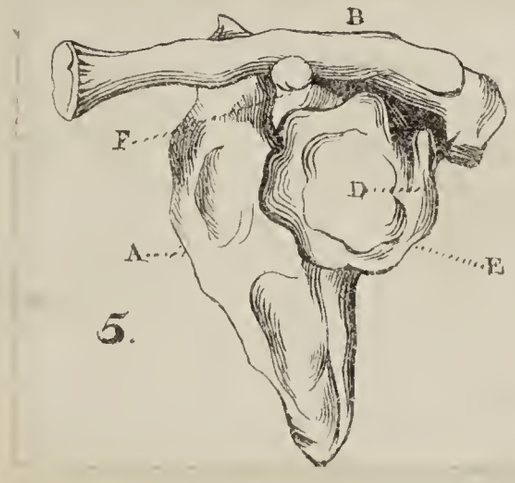


PLATE V.

Articular surfaces of the scapula in an incomplete sub-coracoid luxation, of 21 years' duration, viewed anteriorly.

A, Scapula and fossa subscapularis
B, Clavicle
D, New articular surface of the scapula; an external portion is there distinguishable, appertaining to the ancient glenoid cavity; an internal portion, excavated on the neck of the scapula, and a smooth and slightly projecting angle, which separates these two portions, and represents the anterior and inner border of the glenoid cavity
E, Posterior glenoid cushion partly ossified
F, Coracoid apophysis



REVIEW.

Treatise on Diseases of the Skin, founded on new Researches of Pathological Anatomy and Physiology, by P. RAYER, D. M. P., *Translated from the French, by* WILLIAM B. DICKINSON, M. R. C.S., 8vo. pp. 398. MESSRS. THACKER AND CO., CALCUTTA.

Continued from page 460.

This is a very ably written account of alterations in the colour of the skin. Such is the dread of the respectable part of the Native community of any such alteration, lest it should indicate leprosy, that he medical man, who may be able successfully to remove the white leprous spots, may calculate upon realizing a certain fortune. Morbid tints are produced by cutaneous inflammations; alterations of colour, however, are often the result of a defect or diminution of the secretion of the pigment (leucopathia, chlorosis). They also depend upon modifications of this colouring matter (ephelis, lentigo, chloasma). Sometimes the alterations are produced by the introduction of extraneous matter into the tissue of the skin (icterus, artificial colorations). Under leucopathia Rayer distinguishes general and congenital leucopathia or albinism, in which the skin is usually of a dead white, the hair silky, soft, straight, or wavy, and the whole body covered by a down of peculiar whiteness and softness; the iris is of a pale rose colour and the pupil has a marked redness depending on the absence of the pigment of the choroid and uvea. Rayer specifies general and accidental leucopathia as occuring only in negroes: it is, however, often seen in natives of this country, caused entirely by the absence of the pigment of the skin.

"Not having had the opportunity of making anatomical researches on skin affected

with general or partial leucopathia, I shall merely remark, that it is, at present, supposed, that the whiteness of the skin in Albinos is owing to the absence of the mucous network of Malpighi, or the pigment deposited on its surface.

(c.) The etiology of albinism, general and congenital, is very obscure. The disease is met with in all the varieties of the human race, in all parts of the globe, and in a great number of animals. The union of an Albino with a coloured person is productive of a coloured child, but sometimes of an Albino. Though Albinos are more common in Africa, they are observed in other meridional countries inhabited by negroes; on the Isthmus of Darien, in Brazil, Sumatra, New Guinea, &c.; and even in Europe, among the whites, in Denmark, England, France, Switzerland, &c.

Partial leucopathia is also developed without any known cause, but almost always after birth.

(d.) General leucopathia differs from chlorosis, the latter never being attended by decoloration of the hair, choroid, or uvea; the paleness of the skin, slight and temporary in chlorosis, is combined with depravity of the digestive organs, difficulty of respiration, and with amenorrhœa or dysmenorrhœa; lastly, the paleness of the skin in leucopathia results from a diminution or absence of the pigment, while, in chlorosis, the pale tint of this membrane is owing to the small quantity of blood circulating in it.

When diseases of the skin were but little studied, some analogy was supposed to exist between this state of the tegument and the white scales of lepra; but at the present day, all idea of connexion between such dissimilar alterations is relinquished. Partial leucopathia, which has been also described under the name of *white ephelis*, is very distinct from all other alterations of the tegument. However, certain decolorations produced by light but prolonged pressure, approach somewhat near it; those marks, in particular, which are observed beneath the pads of bandages, &c. in those afflicted with hernia.

(p. and t.) General congenital leucopathia has been but little studied under a therapeutic point of view; this defect of conformation has been generally regarded as incurable. In partial accidental decoloration of the skin, a new formation of the pigment may be attempted to be produced by stimulating the affected part with sulphureous *douches*, volatile liniments, blisters, &c.

Blumenbach was the first who made any extensive researches on leucopathia, and which he considered as a pathological state."

Elephantiasis of the Arabs, Lepra, Barbadoes leg, and Cochin leg, are ranked as diseases primarily foreign to the skin, but which at times produce alterations in it. Rayer is of opinion that the skin may undergo, in its conformation and texture, divers changes; the description of which should be classed with affections of the sub-cutaneous cellular tissue, with which they are related. Our author was led into an investigation of the elephantiasis on account of the remarkable changes which it sometimes causes in the organization of the skin, and because until lately it had been confounded with lepra and elephantiasis of the Greeks, from which it differs, both in its primary seat, and external characters.

"Under the name of *elephantiasis of the Arabs* has been described, and some authors even now designate, all intumescence of the cellular tissue of the limbs, scrotum, labiæ, face, &c. not dependent on phlegmon, œdema, or vascular tumours. Intumescence of this description may be consecutive to chronic inflammation of the cellular tissue, which becomes hardened, resistent, and truly hypertrophied, or may be produced by abnormal development of the adipose, or other tissues which enter into the structure of the limbs or face. M. Alard* restricted the sense of this term, by applying it to a certain inflammation of the skin, and subcutaneous cellular tissue, announced at its outset by the formation of a hard, knotty, and painful cord, following the course of the lymphatic vessels, and characterized afterwards, by a hard, shapeless, and permanent engorgement of the skin, subcutaneous cellular and adipose tissues of the parts affected, the dimensions of which gradually increased.

When this peculiar inflammation is developed in a healthy person, the invasion is usually sudden and unexpected. A more or less vivid pain is felt along the course of the principal lymphatic trunks, or in one or more of the glands of some region; most ordinarily one of the *abdominal limbs* are affected. A hard cord soon appears, in the direction of the pain, knotted and tense, resembling a wreath of small subcutaneous tumours. The inflammation progressing, the tegument covering the lymphatic vessels and glands inflames, assuming an erysipelatous tint; the inflammation extends to the subcutaneous cellular tissue near the disease, and is followed by considerable tumefaction. Other phenomena accompany this local affection. At its commencement, there is prolonged shivering, very vivid thirst, general disorder, anxiety, violent vomiting, discharging the contents of the stomach, and sometimes a small quantity of blood. In some particular cases, the brain itself becomes affected, and delirium supervenes; an intense heat succeeds the shivering, accompanied by increased

* Alard, *De l'Inflammation des Vaisseaux Lymphatiques, Dermoïdes, et sous Cutanées, (Eléphantiasis des Arabes, Maladie Glandulaire de Barbade, &c.* 8vo. Paris, 1824.

action of the heart, and followed by abundant general, or partial sweats, and diminution of the febrile action. After thus subsiding, these morbid symptoms, local and general, reappear in the form of *paroxysms*, at more or less distant intervals, always preceded by renewed local irritation, and followed by increased augmentation of the tumefaction of the inflamed part. The duration of this stage is very uncertain; the general symptoms afterwards diminish both in number and intensity. After each attack, the heat and pain dissipate more rapidly, while the swelling increases from day to day, making considerable progress in the first two or three months which follow the invasion of the disease. The cellular tissue, at first, appears to be the seat of acute dropsy; but, in its progress, the tumour becomes very hard, and no longer yields to the pressure of the finger. The lymphatic glands either suppurate, ulcerate, or remain in a state of chronic induration. Arrived at this second stage, the disease usually exists without any farther inconvenience than arises in the functions of the part affected. After remaining stationary for several months, the malady seems to revive, and it not unfrequently occurs that fresh inflammatory paroxysms are developed, followed by renewed increase in the size of the limb; the number of these attacks can neither be foreseen, nor calculated upon.

These symptoms are not always met with in all diseases designated, for want of some other term, *elephantiasis of the Arabs:* they were not all observed in a case, reported by M. Bouillaud, * of a woman, whose inferior limbs, enormously swollen and as hard as stone, resembled, so to speak, those of *an elephant*. In this case, the engorgement was consecutive to the obliteration of the crural veins, and that of the vena cava, and not to inflammation of the lymphatic vessels. This abnormal development of one of the lower extremities coincided, in one patient, with varices of the veins of the thigh.

Elephantiasis of the Arabs presents some remarkable peculiarities, according to the region on which it is developed. No part is exempt from the attack; but it most commonly affects one of the *lower extremities:* in the latter case, it is known in England as the *Barbadoes leg*. M. Alibert has thought proper to view this morbid condition as a species of lepra, which he calls *tuberculous elephantine lepra*. The joints, near the inflamed part, at first become stiff and contracted; the limbs afterwards assume such fantastic shapes, and acquire dimensions so disproportionate to other parts of the body, that it is impossible to give a general idea of it to those who have not seen the disease, or at least drawings from it. Sometimes it forms, as it were, in steps, so that each of these appears like a distinct tumour; at other times, the tumour is plain and smooth, like a well-filled sack or bottle. After the first attacks, the skin is usually smooth, and without discoloration; varicose vessels sometimes ramify under this membrane, giving it a brown colour; by degrees the integuments become harsh; covered by nipple-like processes, small warts, yellow, disgusting crusts, and most frequently, by a new thick epidermic production, analogous to that of ichthyosis. Lastly, fissures and crevices form in the limb, which becomes enormous, and extraordinarily deformed. In some patients, during the course of the disease, or after it, the articulations of the limbs become the seat of very obstinate chronic inflammation.

When developed on the parietes of the *abdomen*, and occupying a large surface, elephantiasis is often attended, at its outset, by all the symptoms of very violent gastric irritation; an abundant serous exhalation takes place in the subcutaneous cellular tissue of the lower belly, and often, also, in that of the *labiæ*, *scrotum*, and margin of the *anus*.

If the *scrotum* is the primary seat of elephantiasis, the affection may extend to the penis, the common effect of which is a morbid exhalation which gives to these parts a monstrous size. This alteration has been improperly designated as *Egyptian sarcocele*, or *endemic hydrocele of Malabar*. M. Dumeril recently saw a case, in a man, on whom all the resources of art had been tried in vain. More recently still, M. Dupuytren had a woman of the town in his wards, in whom this disease was developed in the labiæ, which were of enormous size.

The parietes of the *chest*, *neck*, and *head*, are also liable to this disease. It gives to the breasts so much bulk, that they require to be supported by bandages. Besides the chronic induration which follows the attack, if neglected, ulcerations form in the mammary regions, which are very difficult to heal. Lastly, when the *face* is the seat of elephantiasis, delirium often occurs in the early stage; and in the second, permanent tumefaction of the cheeks, nose, and lips, is observed, affecting occasionally one half of the face, presenting a hideous aspect.

The extent and intensity of the alterations of the lymphatic vessels and glands, and of the subcutaneous cellular tissue, the region on which this affection is developed; the number of attacks; the greater or less interval between them; the idiosyncrasy of the patient; treatment adopted, &c. all influence the local disease, and the sympathetic and concomitant lesions. An exact idea of the variable and numerous forms presented by these morbid phenomena, can only be attained by study of the cases of *Barbadoes leg* which have been published.

(A. R.) Patients seldom succumb to the first stage of elephantiasis of the Arabs. Anatomical researches have been made only in individuals who have been the subjects of it for months, or even years. In the latter case, Hendy found the lymphatic glands indurated, or suppurating, and larger than in the normal state; the absorbents were dilated, and their coats weakened, so as not to be capable of resisting the lightest injection.

* *Archives Générales de Médecine*, tom. vi, p. 567.

The subcutaneous cellular tissue presented a remarkable alteration: a thick, viscous, tenaceous humour, sometimes of the consistence of jelly, often mixed with a sort of serosity, filling and distending its arcolæ; the quantity of this humour was proportional to the general size of the tumour, or to that of its different parts. In some patients, the subcutaneous and intermuscular cellular tissue has been found very abundantly developed, and indurated, (bearing some resemblance to submucous cellular tissue become scirrhous,) and more and more dense as it approached the dermis. The adipose tissue has also been observed to acquire a very marked development. The smaller arteries of the diseased part have much larger dimensions than in the healthy state; the muscles become softened and pallied; the bones and nerves do not, usually, undergo any change in structure or conformation.

The distended skin may preserve its natural appearance; but it may also present various alterations. Sometimes, increased in thickness, so as to resemble hog's skin; it presents, in other cases, fissure and ulcerations, particularly in the neighbourhood of the joints. It occasionally assumes a state analogous to ichthyosis. The epidermis is then, usually, very thick and adherent to the chorion. Beneath the epidermis, Mr. Thomas Chevalier* found the papillæ of the skin excessively enlarged, elongated, and prominent on the surface of the dermis; at the points where the papillæ were smallest the epidermis was thinnest. The chorion was so much hypertrophied, that in some parts it was half an inch in thickness, and presented the granulated aspect observed in the larger quadrupeds. It adhered by its under surface to the indurated cellular tissue, with which it became insensibly confounded; it was neither injected, nor altered in colour. This abnormal development of the papillæ has been observed also by M. Andral, † who distinguished the three layers which Gaultier and M. Dutrochet assert to exist between the dermis and epidermis, and which, till then, had never been demonstrated, except in the skin of negroes, and that of animals. A woman had an old ulcer on the right leg: this had cicatrized thirteen years, but the limb acquired an unusual development, and great hardness; the skin had become rugous, and of a deep brown colour, analogous to that of the cubital edge of the hand in negroes; at some points the limb was black. On dissection, M. Andral found the subcutaneous and intermuscular cellular tissue remarkably developed and indurated, resembling submucous cellular tissue in a scirrhous state. The dermis was greatly increased in thickness, and at several points could not be separated from the former; the two seeming almost one homogeneous organization; it was neither injected nor discoloured. Above the dermis was the *papillary* body, strongly marked at several points, evidently distinct from the dermis, and bearing the same relation to this as the villous coat to the intestinal mucous membrane. Above this papillary body, and between it and the *epidermis*, were three distinct layers: the innermost, under the form of a white line, dipping into the interstices between the papillæ, not receiving any vessels, and consisting of a cellulo-fibrous tissue, was what Gaultier has designated *the deep white layer*; Dutrochet, the *epidermic layer*. A second, external to this, composed of blackish, very delicate filaments, interlacing in all directions, constituted a network quite analogous to the coloured layer in negroes. Lastly, a third, immediately subjacent to the epiermis, and which, at some points, was only a white line, like the epidermic layer of the papillæ, thicker and harder than the others, and as if formed of a series of super-posited scales: this was the *superficial white layer*, of Gaultier; the *horny coat*, of Ductrochet. I observed analogous facts, in the examination of the great hypertrophied integuments of a man who had laboured under very remarkable peneral obesity.

The state of the stomach, and the other viscera which may be affected in this disease, has not been carefully studied. Farther observation will shew, whether inflammation of the stomach may not tend to produce the morbid phenomena sometimes observed at the commencement of this singular affection. The comparative study of the symptoms during life, and the alterations observed after death, seem to lead to the conclusion that elephantiasis of the Arabs is a peculiar inflammation, the primary seat of which is in the lymphatic glands and vessels, and which afterwards rapidly extends to the subcutaneous cellular tissue, frequently to the skin, and sometimes to other organs adjacent to the seat of the disease. These tissues, at last, undergoing different alterations, consecutive to chronic inflammation, present a most remarkable state of hypertrophy.

This affection is neither hereditary nor contagious; it attacks all ages, rich as well as poor; those who live well, and those who are poorly nourished. It seems that the sudden impression of cold, and the penetrating coolness of the nights, aided by the currents of air which are established in the houses of Barbadoes, are the most usual causes of this disease, which is comparatively rare in Europe. It is said to become endemic, if, as in the torrid zone, and some parts of meridional Europe, these causes act continually in consequence of prevailing winds; and that it may become epidemic, when the changes of the seasons produce a certain succession of circumstances favourable to its development: so Hilary remarked.

(D.) Elephantiasis of the Arabs presents two different appearances. At first, it is, in most cases, an acute phlegmasia of the lymphatic glands and vessels, and of the subcutaneous cellular tissue, attended by febrile symptoms; it afterwards becomes a chronic affection, which may simulate certain tumours, according to the seat it occupies. In its first stage, elephantiasis may be confounded with

* *Medico-chirurg. Transact.*, vol. xi. p. 63.
† *Archives Générales de Médecine.* Mar. 1827.

common inflammation of the lymphatic vessels and glands, or that produced by the absorption of a virus; with induration of the cellular tissue, with the œdema* observed in *puerperal women*, and other phlegmasiæ of the cellular tissue of the different regions of the body. History tells us also, that the voluminous tumours observed in the second stage of the Barbadoes glandular disease, have been taken for varicose swellings, for elephantiasis of the Greeks, spina ventosa, hydrocele, sarcocele, hernia, encysted dropsy, &c. according to the region on which they have been developed; but at this time, no well-informed practitioner is liable to make these errors. It is of the greatest importance to determine whether the tumefaction of the affected parts is not caused by the indurated cellular tissue, impregnated with serosity and hypertrophied, by the abnormal development of the adipose tissue, or the skin, muscles, or other tissues entering into the organization of the limbs; whether it is not produced by the enlargement or engorgement of the lymphatic glands and vessels, dependent on obstruction to the course of the blood, caused by dilatation, narrowing, or obliteration of one or more of the large veins.

(P.) The first stage of this disease is never fatal, unless the stomach, intestines, or brain, become sympathetically affected; the existence of any of these lesions will render the prognosis more unfavourable. They are less to be feared when elephantiasis affects a lower extremity, than when it occupies the parietes of the abdomen or thorax, or the neck or face. They are not observed when the disease is consecutive to an alteration of the veins.

(T.) Dr. Hendy reports some cases which tend to prove that, in some rare instances, elephantiasis of the Arabs terminates spontaneously, after a month's duration. He recognises the utility of local bleeding in the first stage of the disease. Having no leeches, in the island of Barbadoes, he advises scarification, as a substitute. Although objections have been raised against blood-letting, it seems to me preferable to the application of leeches; it mitigates at the same time, the local symptoms, and the vomiting and other sympathetic morbid phenomena, when they exist. I have employed it largely, but in the chronic stage; when it has always given, at least, temporary relief. The affected limb should be placed in the horizontal position, protected from external impressions, and enveloped in flannel soaked in emollient narcotic decoctions.

When the inflammatory symptoms have been subdued, a *compressive* bandage has always appeared to favour the absorption of the humour contained in the areolæ of the cellular tissue; sedative and repercussive topical applications, such as the liq. plumbi acet. are useful in assisting the salutary effects of compression. If the abdominal limbs are affected, the patient, submitted to this treatment, should keep in bed for some weeks, so that the diseased parts may be constantly in the horizontal position. *Champooing*, aided by compression and purgatives, completely cured a patient treated by Bayle and M. Alard. A strong man came every morning to press the leg of the patient in all directions, and continued this manœuvre for three-quarters of an hour; after this, the bandage was rolled from the toes up to the knee. We succeeded, says M. Alard, by this proceeding, to the utmost expectations of our patient, viz. in reducing the leg to its natural size, and removing all deformity; but then, we had recourse to the repeated use of drastic purgatives, and the patient was completely cured of an infirmity which had afflicted him for twelve years without remission. If no sign of intestinal irritation is present, advantage should be taken of this circumstance to administer laxatives. If the tumefaction of the limb does not completely disappear, or if the abnormal development of the second stage has existed for several years, the chances of cure are few; yet Mr. Lisfranc has obtained truly remarkable success under these circumstances, by the ably combined employment of *scarifications*, *compression*, and local blood-letting. This method is particularly applicable to elephantiasis, constituted by hypertrophy of the infiltrated subcutaneous cellula tissue: like all other modes of treatment, it is unsuccessful when the tumefaction results from the abnormal development of the adipose tissue. It has the advantage, even when inefficacious, of teaching us to appreciate more exactly the state of the skin and subcutaneous cellular tissue.

The scarifications ought to be made far apart, so that the inflammatory circles which afterwards surround them may not unite. The inflammation commonly produced by twenty or thirty incisions of half an inch or an inch in extent, is not considerable; if it acquires any intensity, it must be met with local and general blood-letting, and the application of emollients and narcotics. Before practising new scarifications, we should wait till the first are healed.

Patients, distressed by the enormous weight of the diseased parts, have required amputation as a last resource against this incurable malady. It is asserted that those who have submitted to this operation have had a recurrence of the disease manifesting itself on other regions of the body, or have shortly afterwards fallen victims to one or more phlegmasiæ of the viscera, with which they became affected. Several physicians have recommended the application of blisters and cauteries to the parts affected, hoping that the issue of a certain serosity and purulent humour would contribute to diminish the volume of the diseased parts. *Mouchetures** have been advised, with the same view; but in this case, as in œdema, deep scarifications are far preferable.

* Rayer, *art.* Œdème, (Dict. de Med.)

* *Mouchetures* are small and superficial incisions made in the skin, allowing not blood, but serum only to exude, and are distinguished by the French from scarifications, which are followed by the flow of blood:—T.

The antispasmodic effects of the sublimated oxyde of zinc have been much vaunted, to the dose of from six to eight grains a day. Hendy affirms that it relieved the vomiting and præcordial anxiety experienced by the patient, during the periodical accessions or exacerbations of inflammation. Some practitioners in the isle of Barbadoes, struck by the frequency of vomiting during the local irritation, have thought it proper to favour, or even provoke this process. Dr. Hendy wisely opposes this practice, which has been found by experience to be injurious. The pain in the epigastrium, nausea, and vomiting, are, in this case, produced by violent gastric irritation, and not by the plenitude of the humours, or the abundance of *saburræ*.

Under the generic term of *elephantiasis of the Arabs*, I have, like authors who have preceded me, included several affections not identical, but which have a common character; that of being followed by hypertrophy of the adipose tissue, or induration of the subcutaneous cellular tissue. In many cases published by M, Alard, particularly that of the woman Bastien, the presence of inflammation of the subcutaneous lymphatics was incontestable; on the contrary, nothing authorises the same conclusion in the case of M. Bouillaud's patient, or that cited by M. Chevalier. A rigorous distinction should be made in these cases when they are collected in numbers.

In the cases quoted, the engorgement of the limbs was certainly the result of chronic inflammation of the subcutaneous and intermuscular cellular tissue, more or less analogous to that observed in the neighbourhood of old ulcers and inflamed bones. It should be remarked that the limbs, and other regions of the body, sometimes acquire an abnormal development, a *true hypertrophy*, which may interest separately, or together, the skin, the adipose and cellular tissues, the muscles and the veins. These affections should be distinguished from the phlegmasic alterations which have been designated under the name of *elephantiasis of the Arabs*; and the rather, as these complex hypertrophies of the skin, at times, present alterations analogous to those observed in the latter disease.

THE INDIA JOURNAL
OF
MEDICAL AND PHYSICAL SCIENCE.
Calcutta: October 1, 1836.

CONSTITUTION
OF THE
MEDICAL DEPARTMENT,
H. C. Service.

Before we proceed to consider the next grade to which the surgeon attains, we must, in order to remove an impression that our statements are exaggerated, beg our readers' attention to some additional proofs of the expenses connected with an assistant surgeon's situation in India. Among the items of disbursement we have hitherto considered those of servants, quarters, tentage, and travelling charges, subscriptions to Military; Orphan funds, &c. but we have not noticed the actual value of the rupee in which the assistant surgeon is paid. It is nominally two shillings and six-pence, altho' its exchangeable value is only 1*s.* 11*d.* But to the European sojourner, it is in reality not worth more than one shilling; because in India he has to pay nearly a hundred per cent above the original cost of all European articles. We allude to wines, beer, and all his military equipments, saddles, haberdashery, clothes, cutlery, crockery-ware, oilman's stores, stationery, soap, &c. &c.

As our object is the attainment of truth, we consider ourselves fortunate in having in our possession facts and documents. We therefore quote, entire the report of a special committee to ascertain the average of monthly expense first and second lieutenants of artillery, published by Samuel Smith and Co.

PRESIDENT.—MAJOR FRITH.

1st Lt. EMLY. —HUMFREY. } *Members.* { 1st Lt. JERVIS. - MACDONALD.

The court having met, pursuant to orders, the president submitted a letter, from Captain Tennant, Assistant Adjutant General of Artillery, dated 18th June, conveying copy of a letter, from the secretary to the Military Finance Committee, for the information and guidance of this committee, which was read accordingly and proceeded to the examination of bills and vouchers, and every obtainable evidence in order to make true and just calculations, agreeable to the tenor of the above letter of instructions. The result of their labours is as follows:

1. After a most minute and careful examination of the bills of several officers of regiment, as well as the bills which are appended to this report, the committee have taken the averages, as the best data they could obtain, for making their calculations and for drawing up their present report, in accordance with the instructions before them.

2. This estimate (No. 1) contains t e particulars of the absolutely necessary monthly expences, of a 2nd lieutenant of artillery, stationed at Dum Dum; the amount is calculated upon the lowest possible scale of expenditure, consistent with the respectability of an officer.

List of Houses and their rents.

2 of 50 Rs. each per month.
1— 64
1— 74
6— 80
1— 84
2— 90
5—100
5—150
1—160
1—300

25 Houses at the Station.

3. The Committee are not aware, that there is any item, in this estimate, that requires a particular explanation, unless the allowance for house rent may be considered too high, which arises from there being only four houses at the station which let for less than 80 Rupees each per month, all the rest averaging considerably above 100 Rupees each per month, as will be seen by the list in the margin.

4. The Committee also consider it necessary that every subaltern should have a set of servants (as detailed in the estimate No. 1) to himself, as he is frequently sent into Garrison, on his tour of weekly duty.

5. From this estimate, (No. 1) it will be seen, that after paying the necessary and unavoidable expences for the month, the 2nd Lieutenant has a surplus remaining of Sicca Rupees 8 3 11 from which he is to pay the monthly proportion of charges, contained in the estimates No. 2, 3, 4, 5, 6, and 7, amounting in the whole to Sa. Rs. 75 14 1 per month, whereby the 2d Lieutenant incurs a debt, every month, of Sa. Rs. 67 10 2.

One officer of each company to attend at the Barracks at 8 o'Clock to inspect the breakfasts and at 1 o'Clock the dinners daily.

To attend battalion, regimental and general courts martial, courts of enquiry &c. &c. which meet at the mess house, between the hours of ten in the morning, and three in the afternoon.

Young officers, to attend all courts martial & courts of enquiry during the first six months, after their joining.

The orderly officer of the Battalion to wait on the commanding officer daily at 10 o'Clock and attend daily at 12 o'Clock to see the liquor served out.

Sa. Rs. 64 12 16.

Lieut. Col. Dundas from Dum-Dum to Nusseerabad.

Captain Debrett from Dum-Dum to Agra.

Major Playfair from Dum-Dum to Berhampore on general court martial.

6. The Committee have not allowed any charge in the foregoing estimate, (No. 1) of a palankeen and bearers, though they deem such a conveyance indispensably necessary for officers, who have to perform the duties detailed in the margin during the course of the day, and to the performance of which they are under the necessity of walking, from some bungalows situated at a distance of not less than a mile, to the inevitable destruction of their health, while at the same season, no European soldier is allowed to go out of his barracks, from the hour of nine o'Clock in the morning until 5 o'Clock in the afternoon. The above prohibitory order clearly evinces the danger of exposure, in the heat of the day, but to which the subaltern officer is daily exposed; and if any proof were necessary, to corroborate the opinion of the committee, on the necessity of such a conveyance, they have only to state the fact, of an allowance of Rupees 30 6 per month being granted to assistant and veterinary surgeons, while with their corps, to

Lieut. Dalzell from Dum-Dum to Berhampore.

Lieut. Mallock from Dum-Dum to Cuttack.

Lieut. White from Dum-Dum to Assam.

Lieut Campbell from Dum-Dum to Dacca.

Capt. Counsell from Cuttack to Keitah.

and full tentage, provide such a conveyance to protect them (in the performance of their duty,) from the baneful effects of the climate.

7. By these estimates it will be seen, that the monthly expences (together with the monthly proportion of those of less frequent occurrence) of a 2d lieutenant on full batta at Dum-Dum with all the advantages of a mess establishment, exceed his monthly pay and allowances, by Sa. Rs. 67 10 2; if such be the fact in this situation, it is not difficult to divine what will be the result when marching, with an increased establishment of servants, wear and tear of camp equipage and cattle, more clearly defined in estimate No. 8, viz. an increase of monthly debt, (as per margin) and that this is really and truly the case, is established by the fact, that with very few exceptions, there is not a single subaltern officer in the regiment from the senior 1st Lieutenant down to the junior 2nd Lieutenant, that is not, to some degree, involved in 'pecuniary difficulties.' It may probably be considered unnecessary to keep up a full marching establishment at this station; it is indispensably necessary however to be provided with the means to obtain it, at the shortest notice, for officers of all ranks in the artillery are liable to move at all times and seasons, from one station to another, frequently at remote distances, and of which the committee need only adduce a few instances of late occurrence as a proof.

8. During the time the officer is absolutely marching, his monthly expenses will be reduced Sa. Rs. 40 (house rent.) but this expence will recur, on his arrival in cantonments, in addition to his marching establishment, making a total deficit per month of Sa. Rs. 132 7, with the interest accruing thereon.

9. With reference to the expenses of a 1st Lieutenant the committee see no reason to alter the rate of the estimates already made for a 2nd Lieutenant, although it may reasonably be admitted, that officers who have been in the service from 7 years, the junior 1st Lieutenant to above 17 years, the senior, would require a little more comforts and conveniences; rendered necessary, not only from a longer residence in the country, but also to enable those, having charge of companies, more effectually to discharge the duties consequent thereon, as well as to preserve the books and documents, belonging thereto.

10. The Commitee beg to refer to the estimate No. 9, to shew the actual difference between the expences and receipts of a 1st and 2nd Lieutenant, by which it will be seen that even a 1st Lieutenant who receives Sa. Rs. 50 per month, more than a 2nd Lieutenant exceeds his monthly receipt, by Sa. Rs. 19 15 11 on full batta and tentage, at this station and by Sa. Rs. 84 12 9 with the addition of his marching establishment.

11. The Committee now beg to submit for attention, the fund necessary for a young man's first outfit, before he has received a farthing of pay, amounting to no less a sum than Sa. Rs. 1,417 15 1 as will be seen by the particulars detailed in the estimate, No. 2, the greater part of which, if not the whole, is generally borrowed from some of the houses of agency in Calcutta, with an appendage of interest and insurance, that, combined with the monthly accumulating debt, already stated, creates one of such a magnitude, that no exertions or privations on his part, to the latest period of his service, can ever enable him to discharge.

12. In the foregoing calculations, no allowance has been made for contingencies of any kind, such as books, postage, &c. &c.

13. The committee in closing their report need hardly remark that if such be the prospects of subaltern officers, who are unmarried, how much more appalling must be those of one, who has a wife and family to maintain.

W. H. L. FRITH, *Major President.*
G. EMLY. 1st Lieutenant
J. H. JERVIS. ———
H. HUMFREY, ———
J. H. McDONALD. ———
} *Members.*

ESTIMATE No. 1, Shewing the monthly expenditure of a 2nd Lieutenant of Artillery at Head Quarters of the Regiment.

House Rent				40	0	0
Mess Bill, including Mess wines				70	0	0
Share of Breakfast expences				16	0	0
Contingencies	Blacking, Pipe Clay, Oil, Candles, Soap, Mussala, Stationery, &c.			10	0	0
1 Bearer		6	0	0		
1 Kidmutgar		7	0	0		
1 Mussulchee		4	0	0		
1 Dhobee		6	0	0		
1 Sweeper		4	0	0		
1 Saies		5	0	0		
1 Grasscutter		3	8	0		
½ a Chokeydar		2	0	0		
1 Bhisty		4	0	0		
2 days Ticca Tailor		0	8	0		
		—	—		42	0	0
Feed and keep of Horse					7	8	0
Military Fund		3	0	0		
Orphan ditto		2	13	11		
Regiment ditto		3	8	0		
Church ditto		1	0	0		
		—	—	—	10	5	11
Total Monthly expenditure, Sa. Rs.					195	13	11

ESTIMATE No. 2, Shewing the outfit required by a 2nd Lieut. of Artillery on his first joining at Head-quarters.

1 Dress Coat	165	0	0
1 Shell Jacket	48	0	0
1 Epaulette	60	0	0
1 Shako	120	0	0
1 Cross Belt	20	0	0
1 Black Waist Belt	22	0	0
1 Breast Plate	16	0	0
1 Gorget	24	0	0
1 Sword	75	0	0
1 Sword Knot	18	0	0
1 Sash	30	0	0
1 Blue Frock Coat	70	0	0
1 Pair Blue Dress Trowsers	70	0	0
Carried over..	698	0	0
Brought over..	698	0	0
1 Pair Undress Trowsers	40	0	0
1 Pair White Kersymere ditto	36	0	0
1 Forage Cap	32	0	0
12 White Jackets	96	0	0
12 Ditto Trowsers	96	0	0
6 Ditto Waistcoats	27	0	0
3 Pair Boots	30	0	0
2 Pair Shoes	8	0	0
1 Cloak (Regimental)	110	0	0
1 Silk Waistbelt	12	0	0
3 Pairs Leather Gloves	10	8	0
1 Pair Buckles	10	0	0
2 Pairs Silk Stockings	16	0	0
2 Stocks	14	0	0
Amount of Furniture outfit vide Estimate No. 6	234	6	
Ditto Horse, &c. vid No. 7.	315	0	0
Fees on Commissions	35	12	5
Mess Entrance	90	0	0
Total Expence of outfits. r.	1950	10	5
Deduct a credit of £51 Exchange, 1. 10½ per Rupee	533	5	4
Leaves a Balance to be borrowed of	1417	5	1
Interest and charges on which at 12 per cent. per annum	170	0	0
Or Monthly			14	4

ESTIMATE No. 3, Shewing the Annual expenditure of a 2nd Lieutenant of Artillery.

1 Shell Jacket	48	0	0
1 Sword Knot	18	0	0
1 Pair Undress Trowsers	40	0	0
1 Forage Cap	32	0	0
6 White Jackets	36	0	0
6 Pairs white Trowsers	36	0	0
4 Pairs Boots	40	0	0
6 Pairs Leather Gloves	24	0	0
9 Shirts	45	0	0
6 Flannel Banyaus	24	0	0
12 Pairs Stockings	8	0	0
2 Pairs Silk Stockings	16	0	0
4 Stocks	8	0	0
12 Pocket Handkerchiefs	9	0	0
12 Hand Towels	5	8	0
6 White Waistcoats	24	0	0
3 Pillow Cases	3	0	0
1 Pair Sheets	8	0	0
Annually Sa. Rs...	424	8	0
Or Monthly			35	6	0

ESTIMATE No. 4, for those Articles which require renewal every three years.

1 Dress Coat	165	0	0
1 Epaulette	60	0	0
1 Shako	120	0	0
1 Black Waistbelt	22	0	0
1 Blue Frock Coat	70	0	0
1 Pair Blue Dress Trowsers	70	0	0
1 Pair white Kersymere ditto	36	0	0
Total Sa. Rs....	543	0	0
Or Monthly			15	1	0

ESTIMATE No. 5, Articles which require renewal every seven years.

1 Cross Belt	20	0	0
1 Breast Plate	16	0	0
1 Gorget	24	0	0
1 Sword	75	0	0
1 Sash	30	0	0
1 Cloak	110	0	0
1 Pair Buckles	10	0	0
1 White Silk Belt	12	0	0
Total Sa. Rs....	297	0	0
Or Monthly			3	8	7

ESTIMATE No. 6, Outfit Furniture, &c, &c, for a 2nd Lieutenant on his Arrival.

1	Camp Table		12	0	0
2	Chairs		7	0	
1	Bedstead, Mattrass, &c.		30	0	0
1	Bed Room Table		7	0	0
1	Sett of Cooking Utensils		40	0	0
Breakfast Service,	4	Cups and Saucers	3	0	0
	1	Tea Pot	5	0	0
	1	Coffee Pot	1	0	0
	4	Egg Cups	3	8	0
	1	Sugar Pot	1	4	0
	1	Milk Jug	1	0	0
	1	Butter Pot	4	8	0
	1	Tea Kettle	4	0	0
	1	Slop Bason	0	12	0
1	Candle Stick and Shade		10	0	0
1	Basket for ditto		1	6	0
4	Knives and Forks		8	0	0
Dinner Service,	2	Curry Dishes	6	0	0
	4	Dishes of sizes	5	0	0
	4	Hotwater Plates	6	0	0
	4	Plates	1	8	0
	Glass, 1	Muffineer	1	12	0
	Glass, 1	Salt Cellar	1	0	0
	4	Tumblers	4	0	0
	4	Wine Glasses	2	0	0
	1	Cork Screw	0	12	0
1	Brass Chillumchee & Stand		7	0	0
1	Angerty		2	8	0
4	Table Clothes		12	0	0
6	Napkins		2	0	0
Plate	1	Set of Silver Spoons and Forks, 2 of each	40	0	0
1	Chatta		1	8	0
1	Lantern		1	8	0
	Total Sa, Rs,		234	6	0

Renew once in Five Years will give Monthly Proportion of..... 3 14 6

ESTIMATE, No, 7,

A Horse	250	0	0
Saddle and Bridle	65	0	0
Sa, Rs....	315	0	0

Allow renewal once in Seven Years gives a Monthly Proportion of 3 12 0

ESTIMATE No. 8, Shewing the additional expences incurred by a 2nd Lieut. of Artillery when in the field.

Purchase of a Regulation Tent complete	1	350	0	0
Ditto 3 Camels		300	0	0
Ditto 1 pair Camel Tranks		45	0	0
Ditto Camel Gear		30	0	0
Ditto 2 pairs Bangies		14	0	0
Total Cost Sa, Rs..		739	0	0
Allow Renewal once in seven years will give a monthly Proportion of		8	12	10
Additional Expence, 1 Sirwan		6	0	0
Additional Expence, 2 Bhangy Bearers		8	0	0
Additional Expence, 1 Classy		5	0	0
Additional Expence, 1 Cook		7	0	0
Additional Expence, Keep of Camels		16	0	0
Additional Expence, Table Expences		14	0	0
Giving a Monthly Expenditure of....			64	12 10

ESTIMATE No. 9, Shewing the Expences, incurred on becoming a First Lieutenant of Artillery.

Fees on Commissions...	King's	15	0	0
	Company's	17	14	11
Donation to Military Eund		180	0	0
Sa, Rs, ...		222	14	11
Difference of Subscription	Military Fund	2	0	0
	Regtl, ditto	0	8	0
Additional, when 1st Lieut, Monthly			2	8 0

ABSTRACT Shewing the Aggregate amount of the Monthly Expenditure of a First and Second Lieutenant of Artillery.

	Second Lieutenant						First Lieutenant.					
	At Head Quarters.			Detached.			Head Quarters			Detached		
Regular Monthly Expences, Estimate, No, 1,	195	13	11	195	1	11	195	13	11	195	13	11
Average ditto ditto vide Estimate, No, 2,	14	4	0	14	4	0	14	4	0	14	4	0
, 3,	35	6	0	35	6	0	35	6	0	35	6	0
, 4,	15	1	0	15	1	0	15	1	0	15	1	0
, 5,	3	8	7	3	8	7	3	8	7	3	8	7
, 6,	3	14	6	3	14	6	3	14	6	3	14	6
, 7,	3	12	0	3	12	0	3	12	0	3	12	0
, 8,	0	0	0	64	12	10	0	0	0	64	12	10
, 9,	0	0	0	0	0	0	2	8	0	2	8	0
Total Monthly Expenditure, Sa, Rs,	271	12	1	336	8	10	274	4	0	339	0	10
Monthly Receipts, Sa, Rs,	204	1	10	204	1	10	254	4	1	254	4	1
Average Expenditure above Receipts	67	10	2	132	7	0	19	15	11	84	12	9

W. H. L. FRITH, *Major.*

President.

In the above document we find the total average expenditure of a subaltern officer of the foot artillery, stated on the honour and integrity of a committee of officers, to amount to 339-10. The military assistant surgeon is not only subject to every expense incurred by the lieutenant, but to much greater, as we have already proved. Our estimate of an assistant surgeon's expenses amounted to 321, or eighteen rupees ten annas less than that stated to attach to an officer at Dum-Dum. If such be the expenses of the medical and military officer cantoned near the presidency, what must they amount to at a distance, where all Europe articles are to be purchased at double the cost at which they are obtained at the presidency? Moreover if 339 rupees be the monthly expense of the bachelor, what must it amount to should he marry and have a family? We now come to the objection against our calculations and statements, from which we inferred that the superintending surgeon has to pay the debts of the assistant surgeon. If our statements be attentively examined from the commencement, we are satisfied the objection will not be maintained. Our statements are at least corroborated by the opinion of the committee to which we have already adverted.

The Committee observes that the amount of outfit "*is generally borrowed from some of the houses of agency in Calcutta, with an appendage of interest and insurance, that, combined with the monthly accumulating debt already stated, creates one of such magnitude, that no exertions or privations on his part, to the latest period of his service, can ever enable him to discharge.*" In the event of its being advanced that the medical department is better paid than the military, we would, disclaiming all invidious feelings, proceed to prove the contrary; viz. that the military officers of the Bengal Army enjoy actually superior advantages. Out of 1980 military officers, 297, or 1 in 61 are field officers, and are on the receipt of regimental pay and allowances far superior to those of surgeons. Out of 350 medical officers, 12, or 1 in 29 rank with field officers, and draw allowances superior to those of regimental surgeons. Out of 495 captains, 159, or 1 in 3 hold staff appointments with extra regimental allowances. Out of 120 surgeons, 10, or 1 in 12 hold staff appointments with extra regimental allowance.

Besides these, six hold staff situations at the presidency, on allowances less than those of regimental surgeons. The sum total of medical officers on the establishment is 350; out of these twelve comprise the higher grades, viz. three members of the board, and nine superintending surgeons; the rest, amounting to 334, have rank, pay, and pension of captains and lieutenants respectively. All regimental and other staff retain a moiety of staff allowances when absent from their corps or appointments, on sick or other leaves; but not so with the medical officer, whose allowances are forfeited instantly on quitting his regiment. From the facts here stated, it is clear, that the situation of a medical, is inferior to that of a military officer.

In order to prove that, from the circumstances to which we have alluded, the medical department is involved in great pecuniary difficulties, we attended at the insolvent court; and with our own hand noted down, from the schedules of the different houses of agency which have failed, the number of the medical men on the debtor's side. In some of the schedules the profession of individuals is not mentioned opposite their names, and consequently we could not obtain the whole; but those specified amounted to 165. If we take into consideration those not distinguished by professional designations in the schedules, as well as those not mentioned in them, being indebted to friends and other persons; it will be obvious, that in India there are but few medical men out of debt. Can it be advanced with justice against so large a body of respectable professional men, that their debts have arisen from imprudence or extravagance? We are satisfied, it will be allowed by every candid reader, that it cannot. To one estate alone the number of medical men in debt amounted to 52, of whom 21 were full surgeons. The debts to the foregoing must have been incurred during the palmy days, when medical contracts existed and pluralities of medical charges were held: these are now done away, and their allowances must have

suffered a great reduction. What are now the prospects of medical men? Let those who charge us with exaggerating the misfortunes of our brethren reply.

The period of promotion to a superintending surgeoncy, from the time the medical man enters the service, is now upwards of 30 years.

The rank of superintending surgeon is not granted as a matter of right, for length of service, nor in the order of regular succession; but depends on physical fitness, or the discretionary power of the local Government. Few men can realize the hope of living thirty years in an uncongenial climate, or, if they live so long, of retaining their bodily and mental energies, on which, according to the following order, their prospect of promotion depends.

"The Governor General in Council farther deems it proper to declare, with reference to the principles established by the existing regulations of Government on this subject, and the great importance of duties to be performed by superintending surgeons, that the succession to such appointment will not depend upon seniority alone; but that the selection will be made with reference to established character for distinguished zeal, strict assiduity, and professional ability, due regard being, however, had to seniority, when not opposed by considerations of a still more powerful nature."—*Vide Appendix, Medical Regulations.*"

Yet the attainment of this grade, which happens not before he has past the 50th year of his age, affords the only prospect he has of extricating himself from his pecuniary difficulties. We extract the following from the general gradation list of the Bengal Military Establishment, compiled in the Adjutant General's Office, Fort William.

From 1795 to 1810, the number of medical men were, ... 366
Retired, ... 33
Died, ... 71

For fifteen years, this is a most awful mortality: It is 17 to 1 against an assistant surgeon's obtaining the step of superintending surgeon from the period of his entering the service. Captain Badenack, in his work on the Bengal army, states on the unquestionable faith of public returns, that in twenty-five years, out of every hundred officers who had entered the service in their boyhood, ninety-five died by a premature death, or remained in exile. This result, says the author just quoted,——

"Is not to be wondered at, when we consider the great variety of climate to which our officers are exposed, in consequence of the great increase of territory during the last thirty years;—when, for instance, in the course of a few months, a man may be called on to serve in a flat and burning desert, exposed to hot and pestilential winds; then amid frost and snow, on the elevated ranges of the highest mountains in the world; and afterwards in the dismal swamps of Arracan."

It will be observed, that in specifying the period for retirement and pensions thereon, in regard to members of the Medical Board and superintending surgeons, the term of 20 years is mentioned. This specification, with the knowledge that no superintending surgeon can retire under 30 years' service, nor member of the Board under 35 to 40, is irreconcilable with that accuracy of calculation which ought to mark the adjustment of pensions. Nor is it to be accounted for, why this class of the Honorable Company's servants should alone be debarred the privilege of receiving their pensions, immediately on promotion to the higher grades in their department. Surely not from the circumstance of the short period of servitude, or because there was an apprehension of a surgeon becoming a member of the Board, before he had been 20 years in the service, including three for furlough. Such an instance is not on record, and, indeed, under the present system it never can. Promotion must be slower now, since the numerical list has increased with the augmentation in the Honorable Company's military establishments and territorial possessions.

Hence it is exhibited that on the present system the exactions of the service are grievous, and its rewards indisputably nominal.

The pensions of surgeons are as follows: A member of the Medical Board, having been in that situation not less than two years, gets £500 per annum, or £700 per annum after five years; a superintending surgeon, having been in that situation not less than two years, is permitted to retire from the service, and allowed £300 per annum, or after serving in that situation for five years, £365. A surgeon is permitted to retire after 20 years' service, on £192. From which it appears that after 32 years' service, and when about 57 years of age, a superintending surgeon may be entitled to £300, or after being 5 years in that situation, or 60 years of age, to £365;

and a member of the Medical Board, at the age of about 64, is allowed £500 a year, or after being five years in that situation £700. Thus, it is that in the evening of life, a valuable and laborious servant, having received barely a comfortable subsistence during the period of his employment, is suffered to pass away almost unheeded and unrewarded.

When it is considered, how much a surgeon must necessarily be exposed to the inclemencies of the climate; how many comforts he is compelled to renounce; how many dangers, both by night and day, he must encounter; how many hardships he must endure; how soon his constitution is liable to be impaired, by the fatigue and sudden changes which are inseparably connected with his employment; it must be confessed, that few situations can be inferior to that which he fills.

We now arrive at the prize. The staff pay of the superintending surgeon above Benares is 1600 rupees or £160 per mensem, below it 1266 or £126-12-0; allowing he has had bodily strength and health to attain this rank.

The age of 70 is the stated limit of man's existence, he has 15 years then to live on his superior allowances, but if circumstances be such as to compel him to remain for the next step the Medical Board, his span is contracted indeed. The senior superintending surgeon now on the list was promoted to that step in March 1827, he has already been upwards of 9 years a superintending surgeon, at the average age he should be 59 years of age. The staff allowance to a member of the Board is 2409 per mensem. As to the value of the allowances at such a time of life, on such a constitution, and after a lengthened residence in a tropical climate, we leave it to the actuaries of insurance societies to decide.

LECTURES
ON
MATERIA MEDICA, OR PHARMACOLOGY, AND GENERAL THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

By Jon. Pereira, Esq., F. L. S,

ON THE ACTION OF MEDICINES.

Gentlemen,—I proceed in this lecture to examine the action of medicines on the animal system.

We have two distinct classes of phenomena, one caused by the other, both of which may be denominated the *effects* of medicines; but in order to distinguish their order of sequence, we may term the one class the *primary*, the other the *secondary* effects. Purgatives, for example, excite a certain degree of irritation in the intestinal tube, in consequence of which they are sometimes useful in relieving morbid states in distant organs. The irritation, then, is the primary effect; while the beneficial influence on the previous disease is the secondary effect: the first has by several modern authors been termed *physiological*; while the second has, in contradistinction, been denominated *therapeutical*. In conformity with the usage of some of our best writers I shall adopt these designations, without, however, being satisfied that they are the best that could be applied.

PHYSIOLOGICAL OR PRIMARY EFFECTS.—The physiological or primary effects of medicines, for convenience, may be divided into such as are *local*, or those that occur in the part to which the agent is applied; and into those that take place in distant organs, and which, by way of distinction, we denominate *remote* effects.

1. LOCAL EFFECTS.—If you apply strong sulphuric acid, or the potassa fusa, to a living tissue, you will observe that the death of the part soon takes place,—various chemical changes being effected in it,—while the surrounding parts become inflamed, and tender to the touch. In this case, then, there are simultaneous chemical, physical, and functional changes: and we can readily believe the primary influence of the caustic to reside in its chemical properties. This constitutes one kind of local action.

Observe the effect which arises from the application of any of the substances called *irritants* to the body—that is, of substances which excite pain, heat, soreness, and even inflammation; as, for example, cantharides, savine, gamboge, tartar emetic, or alcohol. These agents alter the vital actions of the part, and occasion a series of physical and functional changes; but we have no evidence of any chemical influence. This may therefore be regarded as a second kind of local effect, where most of the phenomena seem referrible to some unknown influence of the medicine over the vascular system of the part; and we may even suspect that the nervous system is only secondarily affected.

But there is a third kind of effect, which can be arranged under neither of the beforementioned heads, and of which we have a good example in the numbness produced by chewing aconite. The most powerful effect of this kind that I ever experienced is in the case of the *Aconitum ferox*, a plant growing in the kingdom of Nepal, and which is used by the natives as a poison, under the name of *Bish* or *Bikh*. At the request of Dr. Wallich I undertook a series of experiments on it, which have been published by him in the *Plantæ Asiaticæ rariores*. While the spirituous infusion of the root of this plant was evaporating, I applied a drop of the liquid to my

tongue. Within ten minutes an intense numbness came on in the tip of the tongue, and in the lips, and was followed by an affection of the velum and uvula, giving rise to a sensation as if these parts were elongated, or paralysed, and rested on the tongue. This latter effect left me in about a quarter of an hour, but the numbness remained for eighteen hours. In this case, then, it is fair to infer that the primary operation of the poison was on the nerves of the part. Other instances of a like nature might easily be quoted: I shall only name two—the numbness produced on tho finger by applying the vapour of hydrocyanic acid to it; and the paralysis of the muscular fibres of the intestines from the application of the ticunas poison to them. Now although all changes in vital action are fairly referrible to physical or material changes, yet in the examples here offered we have no visible alteration.

2. REMOTE EFFECTS.—One of the most striking phenomena produced by medicines is the influence which they exercise over distant organs. Certain substances taken into the stomach have the curious property of exciting an increased flow of urine; others act on the salivary glands, and promote the salivary secretion. How do these phenomena take place? Do the medicinal particles actually pass through the body, from the stomach to the kidneys, or to the salivary glands; and are we to consider these cases as, in point of fact, examples of local action, or should we refer the primary influence to a change in the condition of the stomach, or of some other organ, in consequence of which an alteration is effected in the distant organ, by some mysterious and unknown agency which physiological writers have named *sympathy*? The facts which we have at present accumulated certainly are in favour of the supposition, that sometimes one, sometimes both, of these modes of operation take place. Let us consider them separately; and first,

OF THE OPERATION OF MEDICINES BY ABSORPTION.—Under this head we have to examine the following questions:—

1. Do medicines pass into the blood, and are they transmitted from one part of the body to another?

2. If they do, what are the organs that absorb them—the veins, or the vessels called absorbents?

3. If medicines are absorbed, is it probable that the remote effects take place in consequence of the absorption?

4. If a medicine produce a remote effect, apparently in consequence of its passage into the blood. in what way is this peculiar influence exercised?

Let us examine each of these questions separately.

1. That medicines do pass into the blood, and are subsequently transmitted to some part distant from the one to which they are applied, is undeniable in a great number of instances. The facts in proof are of two kinds: *first*, it has been established by the experiments of Drs. Christison and Coindet, that four ounces of a solution of oxalic acid disappeared from the peritoneal sac of a cat in fourteen minutes; and there is no mode of satisfactorily explaining the disappearance of the fluid exception the assumption of its passage into the blood. *Secondly*, the medicinal particles have been repeatedly found either in this fluid, or in the secretions, or in both.

It is not necessary for me here to enter into the difficulties which have been experienced in detecting medicines in the blood: it is very easy to establish the fact of their existence in this fluid beyond the possibility of doubt, by experiments. Camphor, animal empyreumatic oil, musk, oil of turpentine, asafœtida, indigo, rhubarb, madder, gamboge, copper, lead, cyanuret of potassium, sulpho-cyanuret of potassium, sulphate of iron, sulphate of potash, cyanuret of mercury, chloride of barium, sal ammoniac, iodine, hydrocyanic acid, and alcohol, have been detected in it; and I must refer you to the writings of Tiedemann and Gmelin, of Flandrin and Magendie, of Grognier, of Cantu, and of Krimer, for further information on this point.

But the question is easily decided by experiments, which may be made on ourselves. It is admitted that the secreted fluids are separated from the blood; hence, if we detect medicinal particles in those fluids, we may fairly infer their previous existence in it. Let me, therefore, notice some of the substances that have been found in certain secretions:—

First, in the cutaneous secretion, mercury, iodine, sulphur, the odorous matter of musk, of garlic, and of onions, and other substances, have been detected.

Secondly, in the breath, several substances have been detected by their odour; for example, camphor, alcohol, ether, phosphorus, asafœtida, sulphur, the odorous matter of garlic, and of onions, &c.

Thirdly, in the milk,. The milk sometimes acquires purgative properties, in consequence of the employment of purgatives by the nurse. Tonics, indigo, iodine, and madder, have also been distinctly recognised in it.

Fourthly, in the urine so many substances have been discovered, that it will be most convenient to exhibit them in a tabular form. The following is taken principally from the experiments of Drs. Wohler and Stehberger, as mentioned by the late Dr. Duncan:—

SUBSTANCES WHICH PASS OFF BY THE URINE.

(A) Unchanged, or nearly so.

Salts.

Carbonate of potash.	Hydro-sulphuret of potash.	Tartrate of nickel and potash.
Nitrate of potash.	Ferro-cyanate of potash (in 66 minutes.)	Borax.
Chlorate of potash.	Silicate of potash.	Muriate of barytes.
Sulpho-cyanate of potash.		

Colouring Principles.

Indigo, Madder (in 15 minutes.)
Rhubarb (in 20 minutes.)
Gamboge.
Logwood (in 25 minutes.)
Red radishes.
Mulberry.
Black cherry (in 45 minutes.)
Cassia fistula (in 55 minutes.)
Elder rob (in 75 minutes.)

Odorous Principles, somewhat altered.

Oil of turpentine.
———juniper.
Valerian.
Saffron.
Asafœtida.
Garlic.
Castoreum.
Opium.
Narcotic principle of Amanita muscaria.
Asparagus (*Cullen.*)

Other Matters.

Astringency of Uva ursi (in 45 minutes.)
Oil of almonds (*Bachetoni.*)

(B) In a state of combination.

Sulphur, as sulphuric and sulphuretted hydrogen.
Iodine, as hydriodic acid.
Oxalic, Tartaric, Gallic (in 20 minutes), Succinic, Benzoic acid — Acids, appear in combination.

(C) In a decomposed state.

Tartrate, Citrate, Malate, Acetate — of potash, or soda, are changed into the carbonate of the same alkali.
Hydro-sulphuret of potash changed, in a great measure, into the sulphate of potash.

I have only to remark respecting this table, that one of the easiest substances to experiment with is nitre, which may be readily recognised by dipping a piece of paper into the urine and drying it, when it will be fouud to deflagrate like touch-paper. If the accounts published respecting the *Amanita muscaria* (fig. 7) be correct, its effects are most extraordinary.

Fig. 7.—*Amanita muscaria.*

A variety of this fungus has a powerful narcotic or rather inebriating effect; and that the active molecules do get into the blood is proved by the fact of the urinary secretion being impregnated with them, and thus possessing an intoxicating property; and we are told that the inhabitants of the north-eastern parts of Asia use it for this purpose. A man, for example, may have intoxicated himself to-day by eating some of the fungus; by the next morning he will have slept himself sober; but by drinking a tea-cupful of his urine he will become as powerfully intoxicated as on the preceding day. "Thus," says Dr. Greville, on the authority of Dr. Langsdorf, "with a very few *Amanitæ*, a party of drunkards may keep up their debauch for a week;" and "by means of a second person taking the urine of the first, a third of the second, and so on, the intoxication may be propagated through five individuals."

To the facts now stated in proof of the absorption of medicinal agents, I may add the discovery of various substances in the solids of the body, such as the colouring matter of madder in the bones, copper and lead in the liver, mercury in various tissues of the body, &c. I cannot, however, help noticing here the hypothesis of Dr. Percival, more especially as it is adopted by Dr. Chapman, an American author on Materia Medica. He supposes that those medicines which, when administered by the stomach, can be detected in the secretions, do not exist in their original state in the blood, but are reproduced in the secreting organs. Without entering into all the inconsistencies of this hypothesis, I may mention that the subsequent discovery of so many substances in the blood is quite sufficient to overturn it.

2. Do the veins orthe lacteals absorb medicinal particles? The ancients, unacquainted with the lacteal and lymphatic vessels, attributed to the veins the absorption of solids and liquids from the surfaces of the body.. The truth of this doctrine, however, was called in question by Dr. William Hunter and Monro secundus; and their opinions were supported by the experiments of Mr. John Hunter. A change consequently took place in the opinions of physiologists, and absorption was presumed to be exclusively effected by the lacteal and lymphatic vessels. The subsequent experiments of Magendie, of Flandrin, and of Tiedemann and Gmelin, have, howe-

ver, proved that the veins do absorb medicinal substances, and have rendered it highly probable that the lymphatics and lacteals do not. Tiedemann and Gmelin administered a variety of colouring, odorous, and saline substances to animals, mixed with their food, and afterwards examined the state of the chyle, and of the blood of the veins of the alimentary canal. The *colouring* substances employed were—indigo, madder, rhubarb, cochineal, litmus, alkanet, gamboge, and sap-green; none of them could be detected in the chyle, but some were found in the blood and urine. The *odorous* substances used were—camphor, musk, spirits of wine, oil of turpentine, Dippel's oil, asafœtida, and garlic; they were for the most part detected in the blood and urine, but none were found in the chyle. The *saline* substances tried were—acetate of lead, acetate and cyanuret of mercury, chloride and sulphate of iron, chloride of barium, and ferrocyanuret and sulpho-cyanuret of potassium. A few of these were detected in the chyle, and most of them in the venous blood and urine. From these experiments we may conclude, that although saline substances occasionally pass into the chyle, odorous and colouring matters do not; all, however, are found in the blood.

Magendie performed a striking experiment, with the view of settling, if possible, the question of the venous or lymphatic absorption of medicines and poisons. He divided all the parts of one of the posterior extremities of a dog, except the artery and vein, the former being left entire, for the purpose of preserving the life of the limb. A portion of the *Upas tieuté* was then applied to a wound in the foot: in the short space of four minutes the effects of the poison were evident, and in ten minutes death took place. To the inferences drawn from this experiment, however, several objections have been stated: first, the exhibition of opium, to diminish the pain of the operation, has been said to vitiate the whole of the experiment; secondly, the coats of the arteries and veins contain lymphatics, by which absorption might be carried on; and thirdly, as the poison was introduced into a wound, the poison might have combined with the blood, and have rendered it deleterious, without the process of absorption taking place. The first two of these objections have been obviated. Some years since I assisted my friend Mr. Lloyd, assistant-surgeon of St. Bartholomew's Hospital, in performing an analogous experiment, using *Strychnia* instead of *Upas tieuté*, and not administering opium: death took place in twelve minutes. In a second experiment, Magendie severed the artery and the vein, and re-connected them by quills, so as to preclude the possibility of absorption taking place by the lymphatics of these vessels: the effects were the same.

We may, then, I think, fairly conclude that the absorption of medicinal particles is effected by the veins. I do not think it necessary to enter into any discussion as to how these vessels carry on this function, and whether medicinal particles enter by what have been called absorbing mouths, or by imbibition through the coats. The hypothesis of the latter mode of transit has been ably supported by Magendie; and to his lectures, published in the Lancet of last year (1834), I beg to refer you for the numerous and striking facts which he adduces in favour of his own view. If his hypothesis of imbibition be correct, absorption must no longer be regarded as a vital, but merely a physical action. The principal objection to this opinion is the difficulty of accounting for the absorption of the particles of solid substances.

3. The next point to be examined is the probability or otherwise of the remote effects of medicines being produced by the absorption of the medicinal particles; for it does not necessarily follow that because certain active substances are found in the blood, their action on the system must be a consequence of their transit.

Mr. Travers, in his "*Further Inquiry concerning Constitutional Irritation*," points out very forcibly the analogy to be observed between the effects of severe injuries and those of poisons operating rapidly upon the system (thus a punctured wound sometimes produces tetanus, so does strychnia); and he concludes that the *modus operandi* in the two cases is identical. As, in cases of injuries, there can be no absorption, so neither is there in cases of poisoning. But no injuries of remote parts that I ever heard of have produced the salivation which is caused by the use of mercury, or the affection of the urinary organs which cantharides are capable of exciting. It must, I think, be admitted that our opinion, whether for or against the operation from absorption, must be founded on probabilities, since the subject is incapable of actual demonstration or proof. I confess I cannot help thinking, that in a considerable number of cases the alteration of functions produced by poisons and medicines is the result of absorption. Let us consider *seriatim* the circumstances in favour of this opinion.

In the *first* place, we know that no organ in the body can perform its functions without a proper supply of blood; and we also know that alterations in the quality of this fluid are attended with corresponding alterations in the actions of the system; in proof of which I may refer to scurvy brought on by improper kinds of food (as the long continued use of salt provisions). We are, therefore, naturally led to suspect, *á priori*, that the passage of medicinal molecules (especially those of known activity) into the blood, and the circulation of them, would be attended with some functional disorder. This suspicion becomes stronger and more valid when we try the effect of injecting substances into the veins. We find tartar emetic excites vomiting; castor oil, purging; opium, narcotism.

Secondly, it seems that the effects of some medicines are modified by circumstances that influence absorption, and therefore we are naturally led to presume a mutual relationship. Thus the activity of a medicine is not uniform when applied to different parts of the body. Nux vomica, for example, is most energetic when applied to

the pulmonary surface; less so when swallowed, and still less when applied to the skin; and the same remark applies to opium. Now the faculty of absorption, or of imbibition, as Magendie calls it, does not take place with equal intensity in all tissues. Certain physical conditions (viz. a fine and delicate structure, and great vascularity) enable the pulmonary surface to absorb or imbibe with extreme rapidity: in this respect, indeed, it is not equalled by any tissue of the body. Hence, then, if we assume that nux vomica and opium act by becoming absorbed, we can easily comprehend why these substances are so energetic when applied to this part. The membrane lining the alimentary canal absorbs with less facility than the pulmonary membrane,—which may be accounted for by the less extent of surface in contact with the medicine, by its less vascularity, and by its being covered, in some parts at least, by an epidermoid layer, and in all its parts by mucus, which to a certain extent checks absorption. We see, then, the reason of less activity of the above mentioned poisons, when applied to the alimentary membrane, if we admit their operation by absorption. The cutaneous surface, lastly, being covered by an inorganic membrane (the epidermis), does not possess the same physical faculties for absorption met with in either of the foregoing tissues; and hence the comparative inertness of medicines when applied to it. In fact, it is only by the long-continued application of these agents to the skin that we are enabled to affect the general system; and that the obstructing cause is the epidermis, is shown by the facility with which the system may be influenced when this layer is removed, as has been proposed and practised by Lembert and Lesieur, constituting what has been denominated the *endermic* or *emplastro-endermic* method of treating diseases: of this method I shall have occasion to speak hereafter.

Another circumstance tending to prove some connexion between the activity of a medicine and its absorption is, that the effect of many medicines is in proportion to their solubility. Arsenic and morphia are both more energetic in solution than in the solid state. Now liquids (particularly those miscible with the blood), are much more readily absorbed than solids, and therefore, by admitting the absorption of medicines, we have an easy explanation of the fact. In the treatment of many cases of poisoning we endeavour to take advantage of this principle, and, by rendering substances insoluble, diminish their activity, or render them quite inert. Thus the antidote for the salts of lead, or of barytes, is a sulphate, the acid of which forms an insoluble salt with either of the bases (lead or barytes.). Gallic acid (or astringent infusions which contain it) is for the same reason found useful in cases of poisoning by vegetable substances whose active principle is an alkaloid; and we employ carbonate of lime as an antidote for oxalic acid, to render this substance incapable of absorption.

We may add another argument to the above, and which, like them, is capable of practical application. Magendie asserts, as the result of experiments, that plethora uniformly retards, and depletion as constantly promotes, absorption. If, therefore, we wish to promote this function, we have a ready means of doing so in blood-letting. Thus, every surgeon knows that one powerful means of promoting the action of mercurials on the mouth is to abstract blood. And the same principle leads us to be very cautious in bleeding while a poisonous dose of opium or any other narcotic is in the stomach. Nay, in theory, the best means of preventing the operation of narcotic and other poisons that act by becoming absorbed, would be to throw a quantity of warm water into the veins. Magendie tried this on animals, and found it successful.

Thirdly, the experiment of Magendie, already related, of applying the *Upas tieuté* to the leg of a dog, connected to the body only by two quills, is another argument in favour of the operation of medicines by absorption.

The *last* argument which I shall adduce is, that some poisons, as prussic acid, are equally active when applied to the legs of an animal in whom the spinal marrow has been divided. In this case the effect of the poison could not be the result of its action on the nerves of sensation and voluntary motion. But it is said the division of the lumbar spine does not prevent the action of poisons, because it does not destroy the action of the sympathetic system, the nervous branches of which are distributed to the lining membrane of the blood-vessels. I am aware that it is an experiment liable to objection; but, on the whole, it is certainly favourable to the opinion of the operation of poisons by absorption; more particularly when we bear in mind that the motion of the blood is necessary to the action of the poison; for if the circulation of a part be obstructed, the poison will no longer act.

Taking into consideration, then, all these arguments, I can come to no other conclusion than that it is in the highest degree probable that the remote effects, of some substances, are produced in consequence of their absorption. I cannot admit this position to be at all invalidated by the experiments of Messrs. Morgan and Addison. Indeed, these physiologists do not deny the fact that poisons *may* enter the blood-vessels, and, in consequence, produce their poisonous effects on the system, but they deny the absolute necessity of this process. "It will be seen," say they, "that we are not opposed to the theory of venous absorption, but to the theory which would associate with it the *absolute necessity* for the admission of a poison into a vein, as a cause, and a sole cause, of its effects upon the body."

4. It being admitted, then, that certain medicinal or poisonous agents do get into the blood, and that when in this fluid they exercise a powerful influence over remote parts of the body, I proceed now to examine in what way this influence is communicated to distant organs. In the examination of this question, we meet with so many difficulties inseparably connected with the subject, that we cannot but acknowledge that any conclusion our reasoning may lead us to adopt, must

be in the highest degree problematical. Viewing the question theoretically, we see three ways, by one or more of which a distant organ may become affected by the passage of medicinal molecules into the blood; namely—

(*a*). The medicinal particles circulating with the blood are brought into contact with all the tissues of the body, and thus an organ far distant from the stomach may be affected by local contact with the active molecules.

(*b*). Or we can conceive the possibility of the medicinal molecules making some impression on the lining membrane of the blood-vessels, and which, by sympathy, may be extended to remote parts.

(*c*). The properties of the blood may undergo some change by the contact of this fluid with the molecules of medicines, and the different organs of the body may have their actions or functions materially affected by receiving thus a vitiated blood.

Let us examine each of these supposed modes of operation separately, and endeavour to determine which has the greatest probability.

(*a*.) It is the general opinion of physiologists, that after medicines or poisons have got into the blood, they are carried, in the ordinary course of circulation, to the heart, and from thence to the lungs. Here the blood undergoes certain chemical changes, and probably loses part of the foregoing particles; at least this appears to be the case with respect to the molecules of certain odorous substances. The blood, still impregnated with medicinal particles, is returned to the heart, and from thence is transmitted to all parts of the system. In their passage through the tissues of the different organs, it is presumed that these particles act on one or more parts which are endowed with a peculiar susceptibility to their influence. Thus the opiate particles are supposed to exert a specific influence on the cerebral tissue; strychnia is thought to act on the tissue of the spinal marrow; mercury on the salivary glands, and so on. The molecules are supposed to be ultimately got rid of by the excretory organs. On this supposition then, the blood is merely the "vehicle of introduction."

It must, however, be admitted, that this very plausible theory cannot be satisfactorily proved. We may adduce several arguments in favour of the opinion that medicines and poisons are conveyed to the parts on which their remote action is principally observed, but absolute proof or demonstration cannot be offered: our facts merely prove the passage of medicinal particles into the blood, and the affection of the remote organs; but the link which connects the two phenomena cannot be, or at least has not yet been, shewn. The strongest argument that, in my opinion, can be brought forward in favour of this theory, is, that the molecules of certain medicines may be detected in some one or more of the excreted fluids; and at the same time we find that the functions of the organs secreting or excreting these fluids have become influenced by the medicine. Now the simplest, and, therefore, the most plausible, explanation of these facts, is that the molecules, in passing through the organ, acted on its tissue, and thus gave rise to the functional disorders. Let us select an example or two.

When nitre is exhibited, diuresis is frequently produced, while the salt may be recognized in the urine. The alkalies also usually have some diuretic effect, and at the same time alter the condition of the urine, either neutralizing the free acid, or even rendering this secretion alkaline. The oil of turpentine, in like manner, is supposed to produce its diuretic effect by local contact with the kidneys; for the urine acquires by its employment a violet odour. We are incapable of offering arguments of this kind in a large number of cases, either because the active principles of medicines are not easily detected, or because the part on which they act is not a secreting organ.

Thus, if it be true that strychnia acts on the spinal marrow by local contact, we cannot prove its presence in this part for the reasons just mentioned. We see, then, that this theory, though plausible, cannot from the nature of the evidence be easily proved. Is there any thing improbable in it? Can any arguments be adduced which are adverse to it? I am bound to acknowledge that there are. Many substances which have been swallowed may be detected in different secreted fluids, though they exercise no power or action over the secreting organs. Thus if a dose of rhubarb be swallowed, the colouring particles may be detected in the urine, although this secretion does not appear to be otherwise altered; and therefore it may be said that in those cases where the quantity of the secretion is affected, we have no right to infer that it depends on the passage of the medicinal particles through the secreting vessels. This objection, however, deserves but little attention, inasmuch as we know that the susceptibility of the same part is not the same to all medicines; for it is not every medicine which produces vomiting when applied to the stomach.

It has also been said that this theory of medicines "being conveyed by the circulation to particular parts, is utterly gratuitous, and no less improbable."—"What intelligence," says an American writer, "directs them, in this voyage of circumnavigation, to the port of destination; and how, on their arrival (admitting it to happen), are they separated from the great mass of fluids in which they are enveloped?" It is not supposed, on this theory, that medicines are *conveyed to particular parts*; we presume that the medicinal molecules are *conveyed to every part* of the body in which the blood circulates, but that certain parts only are susceptible to the influence of these particles. But, then, it may be replied, how is it that particular parts only are affected, since medicinal molecules are in contact with every part? We do not pretend to account for this circumstance. Every one is familiar with the fact that carbonic acid may be applied to the stomach in large quantity with impunity; whereas, if taken into the lungs, it acts as a narcotic poison. The urine has very little effect on the bladder, but if introduced into the cellular tissue, it gives rise to violent inflammation.

I have already alluded to another objection to this theory—namely, that injuries sometimes produce the same symptoms as poisons. But it must be recollected that in a large number of instances injuries do not produce the same symptoms; and in those cases where the effects of the two are analogous, I see no difficulty in assuming that there are two modes of affecting the nervous system: mechanical or other injury to the nervous fibrils; and the circulation of poisonous molecules in the cerebral vessels.

The most important objections that have been advanced against the operation of medicines through the circulation, by local contact with the tissues, are those founded on the experiments of Messrs. Morgan and Addison. Of all their experiments, the following are, I conceive, the strongest against the theory under examination:—

The jugular vein of a full grown dog was secured by two temporary ligatures; one of which was tied round the upper, and the other round the lower part of the exposed vein. The vessel was then divided between these two ligatures, and the truncated extremities reconnected by means of a short brass cylinder or tube (fig. 9), within which was placed a

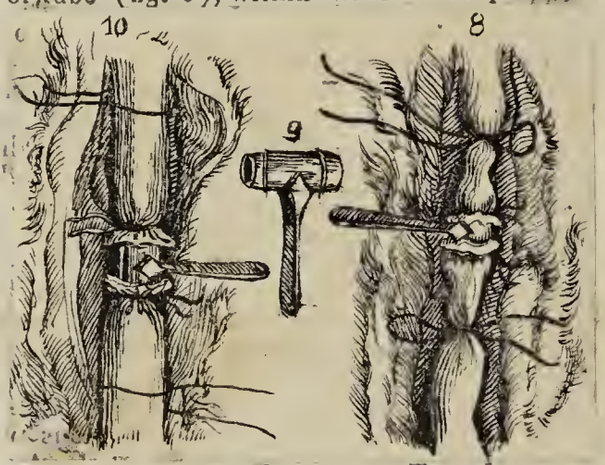


Fig. 8. Fig. 9. Fig. 10

portion of woorara, of the size of a grain of canary seed (fig. 8). Both the temporary ligatures were then removed (fig. 10), the accustomed circulation through the vessels was re-established, and in forty-five minutes the animal dropped on the ground, completely deprived of all power over the muscles of voluntary motion: in two minutes, convulsions and respiration had entirely ceased. This result was to be expected, whatever theory be adopted.

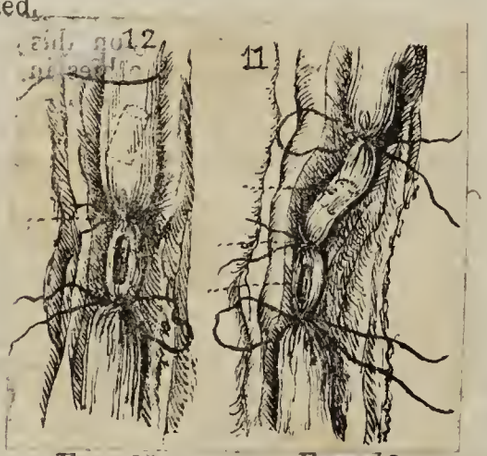


Fig. 11. Fig. 12.

In another experiment, two temporary ligatures were applied to the jugular vein, as in the former case. A cylinder of quill containing a little woorara was then introduced into the vein between the two ligatures; another ligature was then applied (fig. 11), and the upper temporary ligature removed (fig. 12). In the space of 108 seconds after the removal of the ligature, the animal dropped in convulsions, as in the former case, and expired in 3¼ minute. Now in this experiment, the direct entrance of the poisoned blood into the heart, &c. was prevented by the lower ligature: hence if this poison operated by contact with the brain, a greater length of time was necessary for its effects to be produced; inasmuch as the circulation was no longer going on through the trunk of the jugular itself, and therefore if the poison acted by cerebral contact, it must have got into the system by the vessels of the vein.

The results of this experiment, it must be admitted, are somewhat difficult to account for on the supposition that the woorara influences the brain by local contact, though they are not absolutely incompatible with it. Before, however, we can attach much weight to the experiment, it ought to be repeated several times, in order to determine whether the results obtained by Messrs Morgan and Addison uniformly occur. It is necessary, as Dr. James Blundell has truly observed, "not to draw conclusions hastily from a few experiments, but, on the contrary, to multiply them as much as may be, since it is by performing the same experiment repeatedly that important exceptions are sometimes ascertained." But admitting that the experiment was performed with every attention to accuracy, and that the results obtained were correct, the most that can be inferred is that the woorara may disorder the cerebral functions without local contact with the brain. On this supposition, then, woorara will not be peculiar in its operation; for concentrated hydrocyanic acid is presumed to act in a similar manner. We have no right to infer, because one poison (and that very imperfectly known) is presumed from one experiment not to act on the brain by local contact, that therefore no other poison can act thus. I cannot see the absurdity of admitting that the brain may be influenced in two ways—by local contact and by the medium of the nerves; I cannot admit that "all fair analogy forbids the conclusion." I cannot forbear here quoting an observation made by Mr. Travers on this point, more particularly as he is a supporter of the views of Messrs. Morgan and Addison. "But though it has been fairly argued that it is unphilosophical to admit two modes of explaining a phenomenon when one suffices, it cannot be denied that absorption by the blood may extend to the disintegration of it, and its incapacity of so acting on the nerves as to entertain life, any more than that it may be the vehicle of a subtle poison, which, upon reaching the sentient nerve, is instantly diffused over the nervous system, and puts a stop to its power."

The following experiment, related by Messrs Morgan and Addison, appears to me to be of less weight than the one just mentioned. By

the aid of a double brass tube (figs. 13 and 15) they established a complete double circu-

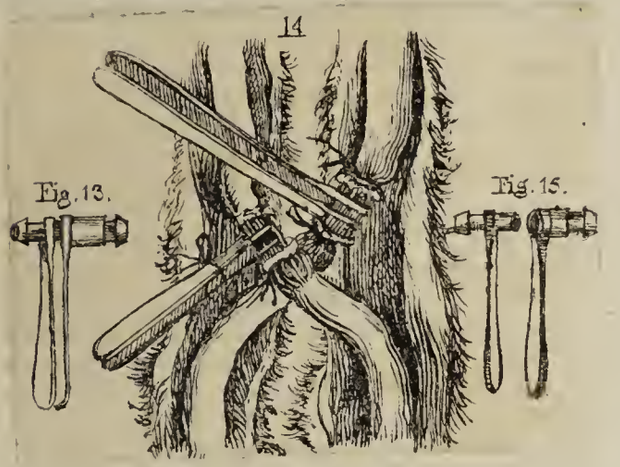


FIG. 13. FIG. 14. FIG. 15.

lation between the carotids of a poisoned and of a sound dog, by connecting the lower and the upper ends of the divided arteries in both animals, so that each supplied the brain of the other with the portion of blood which had previously passed through the carotid artery to his own (fig. 14); and consequently the poisoned dog, in this case, received from the unpoisoned animal a supply of arterial blood equal to that with which he was parting. One of the dogs was then inoculated with a concentrated preparation of strychnia, which had been found, upon other occasions, to produce death in these animals in about three minutes and a half. In three minutes and a half the inoculated animal exhibited the usual tetanic symptoms which result from the action of this poison, and died in a little less than four minutes afterwards—viz. about seven minutes from the time at which the poison was inserted; during the whole of which time a free and mutual interchange of blood between the two was clearly indicated, by the strong pulsation of the denuded vessels throughout their whole course. The arteries were next secured by ligature, and the living was separated from the dead animal; but neither during the operation nor at any subsequent period, did the survivor shew the slightest symptoms of the action of the poison upon the system.

The inference which has been drawn from this experiment is, that the arterial blood of an animal under the influence of poison is not poisonous. It appears to me, however, that this is not a necessary inference from their experiment; and as it is opposed to numerous facts, it requires careful examination ere we admit it.

Even if the blood of the inoculated animal had been really poisoned, the effect on the second animal would have been comparatively slight: for if the circulation of blood through the tube had been as free as through the artery, (which may be fairly doubted,) the second animal could receive little more than one-fourth only of the quantity sent to the brain alone, and, therefore, but a small part of the whole circulating blood in which was diffused the poison. Now as it is presumed that strychchnia acts on the spinal marrow (not on the brain) by local contact, the blood thus sent to the brain would have to go through the usual route of the circulation before it could reach the medulla; and it is not too much to suppose, that during this transit some portion of the poison might be decomposed, or thrown off the system, before it could reach the spinal marrow; and even if this were not the case, this organ could only receive a small portion (viz. that sent by the spinal arteries) of the poison contained in the system. This will, therefore, explain why a poison thrown into the arteries acts less powerfully than when thrown into the veins, unless it be the arteries supplying the parts on which the poison acts.

These reasons, then, lead me to doubt the correctness of the inferences which have been drawn from the ingenious experiments of Messrs. Morgan and Addison. When to these we add that Verniére found the blood of dogs killed by nux vomica was poisonous to leeches, and also to another dog when thrown into a vein, I think I am justified in stating that further experiments are required to disprove the theory of the operation of poisons by local contact.

Mr. Travers, in noticing the different results obtained by Verniére and Messrs. Morgan and Addison, says, that "if it be inquired why the poisoned blood concentrated below a ligature, and transferred into the vein of a healthy animal, proves destructive, while the blood of their common circulation affects only the one of the two animals which is the subject of the inoculation, the answer is obvious—that either the mechanical impulse fails, or the activity of the poison is exhausted before, in the latter case, it reaches the second animal." This admitted uncertainty, then, as to these experiments to which so much importance has been attached, proves, I think, that not one of them can be regarded as an *experimentum crucis*.

(b.)—It has been presumed by Messrs. Morgan and Addison, that when poisons pass into the circulation, and in this way affect the system, the effects result from the impression made upon "the sensible structure of the blood-vessels." And Mr. Travers says that the sentient properties of the lining membrane of the blood-vessels "is pre-eminently adapted to be impressed by the introduction of foreign substances or alterations in the condition of the blood:—their nerves are derived from the sympathetic or organic nervous system." Though I do not think it at all improbable that some medicines may act when they get into the circulation in the manner here assumed, yet further evidence is wanting on this point; for, as Bichât observes, sympathies in veins, like those in arteries, are very obscure, and we are but little acquainted with the influence which the tissues of these vessels may possess over other tissues.

(c.)—The operation of every medicine was formerly referred to the effects which it produced in altering the physical or chemical condition of the fluids, or, as they were termed, the *humors* of the body. To this doctrine of *humorism* succeeded that of *solidism*; in which the effects of all medicines were explained by alterations in the solids. These notions are now giving way to a kind of compound doctrine

of *humoro-solidism*; and it is presumed that diseases are referrible sometimes to the blood, sometimes to the solids; and therefore that the operation of medicines may be either on the one or they other. It is possible that modification in the qualities of the chyle, or of the lymph, may sometimes be the proximate cause of disease; but on this point we have no accurate information to guide us. No facts are known which demonstrate that the action of medicines and of poisons is primarily on the blood, although several circumstances favour the probability of such an opinion. We know that in many diseases the properties of the blood are altered; that in some cases the blood of the poisoned animal acquires poisonous qualities; and that by the use of poisons, medicines, or particular kinds of diet, we may alter the properties of the blood, and produce certain diseased states. It may, indeed, be said, that in these cases the alteration in the qualities on the blood is the consequence of the altered action of the solids; but when we bear in mind that the solids are nourished by the blood, and that they cannot support life without it, we cannot but admit that they must be influenced by the different conditions of this fluid.

Physiology, then, leads to the conclusion, that while alterations of the solids may be succeeded by alterations of the blood,—modifications of the blood may be succeeded by modifications of the solids; and as an able continental writer has remarked, it is as hypothetical to assert that all medicines and poisons act primarily on the solids, as to assert that they all act on the blood: there is as much physiolgy in the one hypothesis as in the other.—*Medical Gazette.*

LECTURE

ON THE

HISTORY OF HYGEINE,

Delivered in his Course on Hygeine, at the Lecture Room, 8, Grafton Street, Fitzroy Square,

By William Farr, Esq.

Gentlemen,—The architecture of the Greeks, their poetry, history, and philosophy, have been understood in this country, and are regarded with reverence by their equal and natural judges; but how do we regard the medicine of the Greeks? Are we as well acquainted with the works of Hippocrates as the artist is with the creations of Grecian sculpture? We know his name; the cyclopedists trace many fantastic doctrines to his works; a quotation now and then crosses our path; but what is our present conception of the essential principles he taught? His words are on some of our lips, but is the philosophical physician's spirit therefore in our hearts? Among many he appears to be in very low esteem. A member of the Council of the College of Surgeons, in his evidence before Parliament, said,—"I believe that neither Hippocrates, Galen, nor Celsus, would obtain our diploma: they would all be turned back in five minutes by either the College of Surgeons or the Apothecaries' Company." Dunces, you know, are sometimes kept up half an hour in Lincoln's-Inn-fields; but the insufficiency of Hippocrates would be apparent in five minutes. He would inevitably be "turned back." This was spoken by a gentleman of "infinite jest;" yet it is probably sober truth, and shows how great men may be treated with contempt where their greatness is forgotten. A good English translation of the works of Hippocrates, a better knowledge of Greece, and a higher tone of thinking, will, no doubt, in the end place the medicine of the Greeks in the same advantageous position as their other arts.

In inviting you to examine with me the doctrines of Hippocrates, in whose mind the hygeine of civilization first assumed a consistent form, it is not from any desire to enforce them by a superstitious regard to antiquity or authority; but in the hope of being able, after familiarizing our minds with great and accurate thoughts, to apply with greater success to the investigation of Nature.

Hippocrates, born in Cos, a small island on the luxuriant coast of Asia Minor, was the second of that name, and inherited all the accumulated wisdom of an ancient family of the Asclepiadæ. His career commenced 460 years before the birth of Jesus Christ. He travelled through several states of Greece, spending his time chiefly in Athens, Thessaly, Thrace, and the island of Thasos; he visited many of the neighbouring people, and after attaining great glory in that country and among his disciples, retired to Cos, to devote himself to his writings. In this island, or at Larissa, he died, aged eighty-three years. It was the time of the Peloponnesian war,—the age of Pericles and Socrates.

Hippocrates was not the author of all the works now printed under his name; he wrote but few himself; others were committed to writing and extended by his followers, or they were the productions of his family. I proceed to develope his views of hygeine from the more authentic documents, as they form a more enlarged system of health than has ever been conceived by any other man. In general I have followed the admirable Coray in the translations, but if I have in any cases mistaken the sense, I shall think any one who may be a good Hellenist to put me right.

Hippocrates, as the basis of his philosophy, lays down that life and organization, and health and death, are but states of matter; that the birth of one body is the death of another; that the composition of one is the decomposition of something pre-existing, and that matter is eternal in its properties. No body is destroyed, or can become what it was not before, or can be formed from nothing. To be produced, and to be destroyed, to be born and to die, are the same thing,—combination and decomposition, changes of form. Men think that what springs from invisibility into light is created, that what passes from light to darkness, perishes; but we must

believe the evidence of our own eyes rather than unevidenced opinions. All things human undergo metamorphoses, increase and decline to their maximum and minimum, as the sun and moon, as light and darkness. In its changes, everything, great or small, fulfils its fate, willingly or unwillingly, by divine necessity.

In examining the doctrines of Hippocrates, we must never forget—although the anticipations of his genius sometimes tempt us to forget—that he was the first who devoted himself exclusively to the study of physiology, and to the cultivation of medicine. The nature of man, his organization, his relation to the external world, and the causes and remedies of his multitudinous diseases, when first opened to investigation, revealed questions enough to overwhelm the mind with confusion. Should we, then, be astonished to find errors in the Hippocratic writings,—particularly on anatomy, and on subjects which the prejudices of the Greeks and the want of instruments prevented him from examining? His discriminating genius is discoverable in the direction of his mind to objects within reach, and of most pressing interest to humanity; the imperfection and uncertainty of his principles resulted from the want of instruments for measuring phenomena. He had no barometer, no thermometer, no hygrometer, so that all his observations on temperature and moisture are indeterminate; he did not employ enumeration to measure the duration of life and disease, the proportion of sickness, the various forms of disease, and the deaths in all ages and under all circumstances; yet in a great many instances he has predicted what calculation will prove to be correct; he has measured the evil in his mind, and foretold the remedy.

Every form of malady and death may happen to men of all races, of all ages, and at all seasons,—but the relative proportion occurring in these various circumstances is very different. Greece is situated between the 36° and 40° of N. latitude; it is traversed by the Isothermal line, 18½°, centigrade; more than nine months in the year the temperature is higher than that of spring in England. Placed on the tropical border of the temperate zone, surrounded by the Mediterranean, bathed by the hot winds of Africa saturated over the sea, chilled by the north-east winds of the continent, or refreshed by the life-giving west, Greece, from its multitudinous shores, its lofty mountains, some of which rise 7000 feet, presents all the fruits of the tropics, intermingled with the corn and flocks of England. Many districts have no direct outlet to the sea, and the shores are marshy, which, with the heat of autumn, produces the fevers of the tropics. In January, the pulmonary affections of England prevail. Out of 15,191 diseases occurring among the English troops in the Ionian islands (1816-1821), 5721 were common, remittent, or intermittent fevers; and it was observed that while the fevers of the troops were remittent, those of the natives were intermittent. The same class of diseases, and the same difference, were observed by the French in the Morea, during their last expedition.

In the books of Epidemics (επι upon δημος *the people*) Hippocrates attempted, and in part realized, the great undertaking of presenting all the diseases of a people in connection with the natural phenomena of the seasons. The constitutions of the years are determined; the winds, the heat and cold, the moisture and dryness, and the order of their succession; then the reigning morbid constitution, the mortality and the *duration* of diseases, the ages, sexes, and occupations most afflicted; while illustrative individual cases follow.

The term *epidemic* now designates one widely prevailing form of malady. Epidemic, in its present sense, is the *reigning disease* of Hippocrates, to which he did not confine his attention, but took into consideration, and described, all the contemporaneous types of sickness. In the late descriptions of epidemic cholera, you will find that statistical writers in England, Germany, and France have restricted themselves almost exclusively to reporting the deaths from cholera,—and sometimes the cases. Now the total deaths or cases out of the living at each ages, and the deaths from the epidemic, compared with the deaths from other causes, were the most essential and interesting elements of the problem which they sought to solve,—elements which they overlooked, and which Hippocrates especially regarded.

In reporting cases, his choice was influenced by the character of the disease they were intended to represent. He neither reported merely fatal cases, as is too often done by the French pathologists, nor did he confine his relations to cures—the rock on which we often split in England. Boyle somewhere censures Hippocrates for narrating so many unfavourable cases, but this scientific candour was an element of the great observer's immortality.

From the manner in which his observations were recorded, it was easy to ascertain the periodical changes and the course of a disease. He did not reckon by days of the month, as is done in the present day, but by days of the disease, dating from the onset; he does not say on the 3rd, the 8th, &c., of the month, but on the 3rd, the 8th, &c., of the disease, such a change took place; or the malady terminated.

EIGHTH PATIENT.—A young man, who slept in the market-place of Liars (Athens), was seized with fever from fatigue, labour, and unusual walking. 1st day. Stools bilious, thin, abundant; urine thin, dark-coloured; no sleep; thirst. 2nd day. General exacerbation; purging frequent, excessive; no sleep. The mind agitated; perspired a little. 3rd day. *Malaise*; thirst; loathing; great restlessness; despair; disturbance of mind. The extremities livid and cold. Præcordia swollen, softish. 4th day. Had not slept; growing worse. 7th day. Died. Aged 20.

By forming a table of such cases—perhaps without doing this—it would be easy to perceive whether the crises occured on any particular day, or in any definite time. The crises of some fevers, it is said, happened on the fifth or sixth day; in others, no crisis took

place before the 20th, 40th, or 80th day; some never came to a crisis. Fevers, in which life is destroyed or saved, terminated in the same number of days. Relative to the crisis, some days are called "remarkable" (περισσὸς), which was translated into Latin by *impar* (odd, unequal); but means, according to good Hellenists, *unequalled, superior.* The chief critical days were the 4th, 7th, 11th, 14th, 17th, 20th.

Diseases were divided into three stages. In the first the crude morbid elements existed, in the second the *morbid product* was formed, in the third it was expelled, and this coincided with the termination of the morbid revolution. The crisis was synonymous with termination, whether by recovery or death; but it was sometimes applied to a single symptom.

Hippocrates appears to have been misunderstood with regard to the doctrine of critical days; for instance, Celsus misstates and combats that doctrine on erroneous grounds. Some appear to think that Hippocrates imagined that diseases came to their crisis, or, in other words, terminated, *only* on the critical days; how incorrectly, the following forty one cases, recorded in the first and third books of "Epidemics," will make manifest.

Here the crises are distributed very unequally, because they are few, and they are not confined to the critical days. It could, consequently, only be meant to affirm that, on the average, fevers ended *more frequently* on these than on other days; and this may be more obvious in the intermittent diseases of the Mediterranean than in this country.

Table 1.—*Crises of* 41 *Cases of Disease, recorded by* Hippocrates *in the first and third books of "Epidemics," showing the days on or before which they terminated by either Death or Recovery.*

Day.	Crises.	Day.	Crises.
2	1	17	3
3	1	20	3
4	3	21	1
5	4	24	2
6	3	27	1
7	3	34	2
10	1	40	3
11	3	80	3
14	2	120	2

But there is another sense in which the Hippocratic doctrine may be understood. He may have divided acute diseases into periods, in order to predicate when the majority of crises occurred, although the observations were not numerous. And this sense is supported in the book of "Crises," where it is said that the mildest fevers terminate on or *before* (προσθεν) the 4th day; the most deadly destroy on or *before* the 4th day. So the first access (ἔφοδος) ends. The second extends to the 7th, the 3rd to the 11th, &c. I therefore think we may admit that acute diseases were divided into weekly periods, and that these were subdivided into intervals of four and three days, as half a week could not be expressed in entire days (ὅλαις ἡμέραις). The foregoing forty-one cases, thus arranged, would justify us in saying concisely, that the crises took place on or before the 7th day, and that the diseases in question were *judged* by the 20th, as ten cases ended in the second period (προσθεσις), and only thirteen out of forty-one remained at the end of the third week.

Table 2.—*Weekly and Half-weekly Crises of the preceding* 41 *Cases; 24 of which were by Death, 17 by Recovery.*

Week.	Between Days.	Half-weekly Crises.	Weekly Crises.
1	0–4	5	15
	4–7	10	
2	7–11	4	6
	11–14	2	
3	14–17	3	7
	17–21	4	
4	21–24	2	3
	24–27	1	
5	34	1	2

The eight remaining cases terminated on or before the 40th, 80th, or 120th day.

Whatever the Hippocratic doctrine may be, it is certain that in this country, in France, and in Germany, few diseases terminate on particular days, or at one period; but I shall be able to show you, that the termination or crisis of several, and probably of every disease, takes place according to a determined law, which may be at any time deduced, when the observations are sufficiently exact and numerous. Dr. Latham has reported 297 cases of typhus fever, to refute the Hippocratic notion of critical periods,—to show that the crisis of that disease is irregular, and subject to no law. When properly arranged, they prove exactly the reverse:—

Table 3.—*Crises of* 297 *cases of Fever reported by Dr.* Latham; *who does not state how many died or recovered.*

Day.	Crises.	Day.	Crises.	Day.	Crises.
5	2	24	10	42	4
6	3	25	6	43	2
8	3	26	4	44	3
9	6	27	7	45	1
10	3	28	8	46	4
11	12	29	4	47	1
12	13	30	11	48	1
13	12	31	11	49	8
14	8	32	6	50	1
15	9	33	8	51	1
16	14	34	6	53	2
17	12	35	5	55	2
18	16	36	1	56	1
19	8	37	—	57	2
20	9	38	3	59	1
21	8	39	5	60	1
22	7	40	8	62	1
23	9	41	3	65	1

In looking over this table, it may be supposed that the 11th, 12th, 13th, 18th, 24th, 30th, 31st, and 49th, were critical days, as the great number of cases terminated on those days; but this irregularity is owing to the small number of facts being divided into a great many sections. If the cases were more numerous they would terminate regularly, as in table 4; where longer spaces of time are employed :—

Table 4.—*Showing the Weekly Crises of 296 Cases of Fever.*

Week.	Crises.
1	5
2	57
3	76
4	51
5	51
6	24
7	20
8	7
9	5

Mean duration 3½ weeks.

Hippocrates was well aware that the majority of patients recover from disease; that the majority of fevers, inflammations, and other severe maladies, seldom destroy more than a fraction of those attacked, when left to pursue their unobstructed course. In Corfu, where the annual deaths were 27.4 per 1000, only 23 died out of 1000 attacks from diseases of all kinds, sufficiently severe to send the soldier to the hospital. I never saw this calculation made for England; but I think it furnishes an approximation to the general truth. The patients were treated, and the deaths were no doubt considerably diminished by medicine; but without any treatment, if 42 out of 43 had not survived, the great majority would have recovered. The natures of diseases are the best physicians (Νουσων φυσιες ιητροι): wherefore Hippocrates scrupulously observed their natural evolution, all the changes, and the increased excretions, which accompanied their progress to health; and where *untoward accidents* occurred, and threatened the extinction of life, he opposed them, by endeavouring to induce the natural crises,—to bring cases, precipitated by something into a fatal route, back to the *natural* course of those ending in recovery.

The Hippocratic doctrines of diet present a philosophical outline of that department of hygeine. A writer on the diet of man, it is observed, should be acquainted with the nature of the whole body, its organs, and the subordination of its powers; should be acquainted with the qualities of all food and drink in the natural and in the prepared states; should know the way to dilute strong things, and to make the weak stronger, by art, as occasion may arise. Nor is this enough; for a man cannot be healthy unless he works as well as eats. Food and labour are opposite forces, which when, in accord one with the other, constitute health; for health is perfect when the elements of the body exist in due quantity, power, and composition (*crasis*). Labour consumes the principles supplied by food; therefore it behoves us to determine the force of labour, both natural and violent,—such as gives, and such as takes away flesh; also the relation of labour to the quantity of food, to the constitution of men, to the size and age of the body; to the seasons, the winds, the site of the country in which they live; to the prevalent type and to all the causes of disease. He who could discover an exact measure of the relation between labour and food, would detect the secret of human health. But this is impossible; they cannot be made symmetrical; yet, as when one is a little defective. the other force runs into excess, there are means of detecting the excess of either, before the slowly-accumulating disease bursts into a flame.

In the application of hygeine it is of the utmost importance to be able to distinguish the first aberrations from health: these are luminously treated, probably from observation in the gymnasia. The first signs of *disease from repletion* are, 1. A stuffing in the nose after dinner, with a secretion of mucus and saliva on the following morning; heaviness of the eyes, paleness, and loss of appetite. 2. Long and agreeable sleep, sleep in the day, followed subsequently by troubled dreams. 3. Lassitude; pains of the whole body, or of parts of the body; Heaviness and headache; the eyelids dropping after dinner, and convulsed in sleep, heat, and sometimes costiveness. 5. Flatulence, voiding the aliment soon after eating, which seems to yield relief, but is soon followed by heat, and diarrhœa, or dysentery. 6. Crude, but not acid eructations; scanty stools compared with the food, yet really copious, with no internal pain. 7. Pallor and acid eructations shortly after eating. 8. Acid eructations on the following day. 9. Profuse perspiration in the first sleep, suffocation, heat, vomiting. 10. Liquid stools, without pain; wasting. 11. The food passing away undigested, but not putrid; wasting. 12. Watery putrid stools, without other inconvenience. 13. A dry, and in process of time, a bitter mouth, confined bowels, hard dry stools, ending in stercoraceous vomiting.—*Exercise is excessive* where head-aches and shivering come on after the morning walks. Some shiver in the gymnasium, from the time they strip till they begin their exercise, and on cooling, their teeth chatter; they are sleepy, and when awoke they feel giddy; their eyes are heavy; malignant fever supervenes. Labour has exceeded food.

The regulations respecting seasons hold still in Greece, and require little modification in England. In Winter eat once a day; lunch very moderately. The food should be dry, rich, heating. Do not go through a gymnastic training in winter; the trees which have not wintered bear no fruit, nor are they healthy. Warm the body with labour, to promote perspiration. Day is short, night long, and this teaches us that labour should be neither long nor excessive.—Spring. When Arcturus arises, when the south winds blow, and the swallow comes, food, drink, and labour, should be more varied, milder, and lighter. As about the equinox (March) the days are lengthened, the nights shortened, the

season is warm and dry, diet should be nutritious and rich. The trees, devoid of reason, provide themselves in this season with increase and shadow, against summer; so should rational man prepare a healthy accession of flesh. In Summer the food should be softer and more sparing; drinks mild and diluted; luncheon moderate, and the siesta brief; excess in meat or drinks as slight as possible. Sexual intercourse should not be indulged. Tepid bathing may be used. Avoid the sun, and cold morning and evening vapours, exhaling from rivers, lakes, and snows, At the summer solstice take no dry, hot, rich things.—Autumn. From the equinox (September) guard against extremes of heat and cold by thick clothing; walk out on warm days; use tepid ablutions; warm and dry food.

Many of the aphorisms are useful general guides in diet, such as, "Beware of sudden changes in living:" "The hungry should not work:" "Those who feed fast and suddenly, may be suddenly reduced:" "Those who waste slowly, are restored slowly:" "The more that unsound bodies are fed, the more they are injured:" "There is more danger in living on a weak and strict, than on a rather full, diet:" A high state of gymnastic training is dangerous."

The atmospheric origin of some diseases was recognised by Hippocrates: the *nature of man cannot always resist the power of the universe*; and certain conditions, constitutions, and climates, impress a peculiar form, not only on disease, but on the entire organization and character of the human family, These are treated of in the book of "Winds, Waters, and Places," presenting a physiological view of the principal races of men observed by him in Asia and Europe developing their innate energies, such as they were fashioned by the earth, and subject to the diseases induced by the external elements. This book is a perfect model of physiological delineation. Phidias, or Zeuxis, never sculptured the human figure more divinely, or painted with more expression, than Hippocrates has here traced the Asiatic and European character.

The influence of the earth on its human inhabitants, is expressed somehow in this manner:—You will almost always find the forms of men and the nature of a place, corresponding; for where the soil is rich, and soft, and wet, and of uniform temperature, the people are gross, lymphatic, of relaxed joints, intolerant of toil, and cowards; indolent and sleepy; they are neither keen nor subtle, but dull in the arts. On the contrary, where a region is bare, rough, unsheltered by nature, oppressed by the cold of winter, and burnt by the summer's sun, the men will be found spare, robust, of well-expressed form, vigorous, and swarthy; they will be capable of toil, and wakeful; their manners will be pertinacious and contumacious; they will be easily roused to anger; fiercer than mild; exceedingly acute and dexterous in the arts; expert in war. For whatever *springs from the earth, savours and participates of its nature.*

To great changes in the weather, and sudden irregular successions of heat and cold, moisture and dryness, Hippocrates attributed great power; he considered them the most common causes of disease, and often states that slow alterations of habit, diet, and temperature, are alone perfectly safe. In the mild, equable climate of Asia, every thing grew in greater size and beauty than in Greece; human manners were more benign and refined; at the same time the inhabitants were rendered timid, effeminate, indolent, and unwarlike. The atmosphere around them lay tranquil, and was insensibly changed; hence the soul was never shaken, the body never tossed about, and tried by changeful vicissitude, which probably exasperates passion, and excites heat, and intellect more than repose. For changes always rouse the mind of man and permit it not to rest.

When the organization is thrown into motion by the external forces of nature, and then suddenly abandoned to its own resources, an effort of *self-action* is made, which gives and concentrates independent power; and thus Nature bears her children, as on eagles' wings, into the higher regions of exertion, and educates them till they can triumph over their element, and ride upon its storms. Excitement of the mind, and of animal heat, which have many analogies with each other, is equally favoured by changes of temperature. We may conceive that in a cold atmosphere a great supply of internal heat is demanded, and when the atmosphere becomes warm, the supply will be superabundant; and this principle of re-action not only applies to calorification, but to the muscular, the nervous, and all other organic functions. In the political changes, the stormy years, of the Peloponnesian war, Greece produced many of its immortal works. Man is ever seeking an equilibrium, but that is repose and death. When the equilibrium is most disturbed, he is most active. Variations in the intensity of external agents serve not only to augment the sum of power, but they temper the body, and fit it to live through a greater range of circumstances; they improve its means of *self-adjustment*—a point which requires deep consideration in education. Medical men, when consulted relative to the regimen of children, and even of adults, are too apt to recommend exclusively warmth, regular diet, and exercise, proscribing all extremes. This may prevent tender children now and then from taking cold, but, on the whole, more is lost than gained by it. Let us never forget that all men are often hurried from one extreme to another by necessity, and that this sort of oscillation preserves or accumulates vital force.

There is a limit to the utility of change. It may be excessive. Hippocrates was speaking of the climate of Asia Minor and Western Asia compared with Greece, crowned indeed with snow-covered mountains, but situate in a latitude where the general range of changes only extended from the temperature at which corn would grow to that at which the grape,

or orange, or olive, would ripen. In countries not known to the Greeks, in Pekin and Petersburgh, excessive change is little more favourable to life than the uniformity of the habitable parts of the frigid zone or the tropics.

One general principle limits another; the climate may be good, but the government may be bad; or the race may be feeble. So Hippocrates further attributes the unenergetic character of the Asiatics to their laws. The greater part of Asia is, he says, governed by (despotic) kings; and where men are despotized, are not in their own power, and do not live under their own laws, they are not very curious in preparing for war; nay, they rather take care to appear unwarlike; for, to them the chances are unequal. They are driven to fight, to toil, to seek death, for their lord, while their children, wives, and friends, are left behind; nay, if they bear themselves valiantly, and are successful in battle, the advantages accrue to their lord, and augment his resources, while to them nothing is meted but dangers and death. Their lands, too, are liable to devastation, or to be made desert by the enemy and by the cessation of labour, so that brave men are prevented by the laws from exercising their courage. The influence of government is further proved by this: wherever the Greeks, or barbarians in Asia, live under their own laws, fight for themselves, and reap the fruit of their own labours, they are neither cowardly nor indolent. It may be added that experience has since shown that they for a time could become both, in the stirring atmosphere of Greece, under a despot. Thus has our great author laid bare the very nerve and withering arm of despotism. Independence enlarges, and gives energy to, all the faculties; it is the vital breath of the mind; it gives health to a nation; and we shall have occasion to show that life is not only less valuable, but, on the whole, shorter in Austria and other countries, where paternal governments enforce hygeinic laws, but deprive their subjects of liberty, not allowing them to bring up children *for themselves*, than in England, where the government has attempted so little towards raising the population to its present pitch of vitality by direct enactments.

In fine, all modifying agents act less on the individuals existing than on those forming, and Europeans differ from each other more in size, form, and faculties, than the Asiatics, because—"Plures corruptiones contingunt in seminis coactione quum tempora frequenter variant, quum si eadem sunt et similia."

Hippocrates has described all the forms of sickness, and the signification of every sign, with an unapproachable exactness. He would have estimated the pathological discoveries of Baillie, Meckel, Laennec, Louis, and Carswell, at their real value, but the day for them was not then come. Bleeding and strong purgatives, and other active remedies, he did not spare to employ, as occasion required, but Hippocrates never forgot that drugs were subordinate agents in the preservation and restoration of health. He looked to climate diet, and exercise, as causes for the prevention and cure of disease; and only considered drugs as useful auxiliaries. His practice in fevers has been called inert. What would calomel, and leeches, and bleeding, have done? The experiment has been tried in the Mediterranean. Hennen says that the *proportion of deaths among the Russian, French, and English troops in the Ionian islands was nearly the same, although the English met the fevers of the country with mercury and the lancet "in all the activity and all the orthodoxy of the schools."* When the French army, 14,000 strong, was in the Morea, 1000 men were lost chiefly by fever in the course of nine months; *gastro-enterite* was recognised,—leeches were there—but the patients died exhausted after their use, as the troops were exposed to miasmata. Where the hygeine of an army is judiciously regulated, the soldier may be kept in health and vigour; but allow an ignorant general to encamp on a marsh, let filth stagnate, fatigue excessively the men, crowd them in low damp rooms, and, despite drugs, they will fall as unripe and blasted fruit, not by the sword but by the fever. The French and English troops at home,—not trained to the field from childhood as the Spartans were,—are very skilfully and efficiently supplied with drugs, yet their mortality in peace is much greater than that of people generally of the same age, because they violate the laws of hygeine.

Now, an army is only a part of the community; and the same facts hold of the inhabitants of a city or a small village. A medical man always saves many lives and much time in sickness; but in a neighbourhood, or in families where he can command all the resources of hygeine, his practice must be much more successful among adults, and rescue twice as many children from inevitable death, as a mere druggist who prescribes most adroitly. Officers of dispensaries and hospitals will bear this out. "But," some may say or think, "we live by drugs; the present public will pay nothing for our sanatory precepts; they know more of large green, purple, and red glass globes, than of the physiology of health; they think more of Morison's murdering pills, or St. John Long's caustic liniments, than of minute precepts about the air and food by which they live and breathe. Besides, why study hygeine, when, by promoting the general health, it would diminish the number of patients?" Gentlemen, I know that you—I know that our generous profession—will not, for a moment, harbour sentiments base. We exist, as a body, to promote the public health, and if the persistence of our craft is at variance with the public good, in the name of God let it be abolished,—let us betake ourselves to something else. Happily our interests are the interests of the community: in proportion to the health and strength and knowledge of England, it has flourished, and will flourish, and in its prosperity or reverses we shall participate. In patriotism, also, Hippocrates was our pattern. He pointed out the sources of health and improvement to mankind. He remained to the last, true to the fortunes of the

small island on which he was born ; he refused to go to the court of Persia, because he preferred serving Greece, and his disinterested exertions during pestilence obtained for him a place in the Prytaneum of Athens.—*Lancet.*

GERMAN JOURNALS.

PERFORATION OF THE ILEUM BY A LUMBRICUS ASCARIDES.—The *Gazette Medicale* for 1833, No. 62, contains an observation of a case where a quantity of worms were discharged through different parts of the body. In the No. for April, 1834 of *Hufeland and Ossan's Journal*, we find a case of perforation of the intestines by ascarides. We also find a similar one in the June No. of 1835, p. 8.

Case.—A child, four years old, who had all the symptoms of a worm affection, was treated, during a period of fourteen days, with all the usual anthelmintic remedies, but without any effect ; in a few days the mother of the child informed the author that she constantly complained of a short intermitting pain below the umbilicus, with a sensation of something biting or pricking her there. The child was free from all fever, but the abdomen continued developed and full ; the above-mentioned sensation in the abdomen also continued, and at length a tumour, about the size of the point of the thumb, became evident in this part ; the tumour grew gradually softer, gave way, and discharged a yellowish pus. The opening of the abscess was not larger than half a pea in diameter ; it gave issue to a large ascarides, but did not subsequently heal up ; a fluid of a thick, yellow colour continued to be discharged from the orifice, and the little patient died in a state of great emaciation on the third week.

Autopsy.—On examining the body after death, a small portion of the ileum, near its origin, was found adherent to the anterior wall of the abdomen ; at the points of union the peritoneal tunic of the intestine and its external coat appear to be rough, softened, and covered with coagulable lymph : in the middle of this adhesion the gut was penetrated by a circular hole as large as a good-sized pea, while a similar opening communicated between the intestine and the external surface, through the abdominal parietes. There was no trace of alteration or worms in any other part of the intestinal canal ; the pus had made its way extensively between the layers of abdominal muscles.

This case does not prove that the intestinal canal, and the muscles and integuments of the abdomen &c., were perforated by a worm ; the communication was evidently the effect of chronic inflammation and abscess of the intestine and soft parts, proceeding from within outwards ; the author of the case, however, seems to think differently, and cites in support of his opinion the absence of all inflammatory symptoms during life, and the peculiar circular shape of the opening through which the worm was discharged. However, he confesses it probable that destruction of the tendinous sheaths was rather produced by inflammation than by any action of the worm.

HEMORRHAGE DURING PARTURITION FROM VARICOSE TUMOURS.

The following cases of dangerous hemorrhage from the bursting of varicose tumours, show the possibility of the occurrence of an accident which we do not find mentioned, in the manner it deserves, in any of our classical writers upon midwifery. It is related by Dr. Elsasser :—

Case 1.—A strong woman, 41 years of age, became pregnant of her fifth child. The pains commenced at eight o'clock in the evening : the waters came away at midnight, and the pains returned with increased force. The patient now complained of general uneasiness, and on examination a deep-blue-coloured tumour, as large as a child's head, was found occupying the right labium. This tumour suddenly burst, discharged a quantity of thick dark blood, and in a quarter of an hour the woman died in violent convulsions.

The child's head was found in the middle of the superior straight, and in the first position. The child itself dead and bloodless. In the centre of the labium was contained a cavity filled with half-coagulated blood, evidently furnished by the bursting of a varicose vein. The vessels of this part and of the right lower extremity were very much enlarged and varicose. The outlet of the pelvis was considerably contracted by projection inwards of the os coccygis, which was immoveable upon the sacrum.

Case 2. A woman died in consequence of an hemorrhage occurring during a labour, which continued for twenty hours. The physician, who was not called upon until after her death, discovered that a tumour on the right labium had burst into the cavity of the vagina. The fissure conducted to a cavity of about four inches in diameter, which ascended upwards under the pubis, and into which a varicose vein opened by a communication half an inch long. The former labours of this female were all rendered difficult by the narrowness of her pelvis.

Case 3.—A strong woman, 34 years of age, was pregnant for the eighth time. The labour proceeded regularly for some time, when she was suddenly seized with a copious flooding of dark coagulated blood, which carried her off in half an hour. The accoucheur, called on too late to render any assistance, found a purple-coloured tumour in the right labium ; it had opened in three places, and the orifices communicated with a cavity containing a quantity of grumous blood.—*Kleinert's Repertorium*, November 1835.

The cases which we have just noticed, prove distinctly that flooding, terminating fatally in a very short time, may be produced during labour by the bursting of varicose tumours into the internal labia ; and this accident is particularly liable to happen

when the child is fully formed and the pelvis small. The manner in which the rupture of the vein takes place, is easily explained by the reflux of blood, whose passage through the vessels is totally impeded by the pressure of the child's head; and the fatal termination of the three cases shows that a long-continued loss of blood, though in moderate quantity, is not without danger during labour. Besides, the varicose state of the veins often depends upon a similar peculiarity in those of the uterus, which are naturally much larger than the arteries, towards the end of pregnancy.

Hemorrhage arising from the bursting of large varicose tumours in the vagina are very dangerous, especially when they burst inwardly. (See *Osiander Anzeig, Zur Hulfe, &c.*, page 86.) Rupture of these tumours has sometimes been observed during pregnancy, and (l. c. p. 89) we find a fatal case from rupture of the right internal iliac vein mentioned in *Hufeland and Ossan's Journal*, July 1817, page 100. On the other hand, the female's life is seldom endangered by the bursting of these same tumours, when the blood is effused into the cellular tissue, and there forms a blue-red tumour that does not give way during delivery. The author has observed one case of this latter kind, where the tumour was as large as a child's head, but did not give way until the fourth day after delivery, when a quantity of grumous blood was discharged without any injury to the patient's health. The danger of this accident however may be much diminished by timely assistance. The patient should be immediately placed in the horizontal position, and air freely admitted. In some cases bleeding from the foot is necessary. A sponge dipped in brandy, or some other styptic fluid, should be placed over the orifice of the cavity, and compression exercised until the child's head descends far enough to compress itself the bleeding veins. After delivery the vagina must be plugged. The author does not approve, as it would appear, of opening the tumour with the bistoury.

TRANSFUSION OF BLOOD.

The following cases in which this treatment was pursued by Dr. KLETT of Heilbron, were attended with the happiest results:—

Case I.—A woman, 41 years of age, of nervous temperament, after having passed over two menstrual periods, was seized with hemorrhage from the uterus, which soon became very profuse. The author was called upon in eighteen hours after its commencement, and found the patient very much reduced and pale; the pulse barely perceptible. The abdomen was fomented with brandy, and the extremities washed with warm wine. The patient took, internally, *Extr. Ratanh.* in *Aqu. Cin.* c. *Tinct. Cinnam.* et *Naphth. Acet.* The breast and abdomen washed with naphtha; astringent injections thrown up; all these means were of no avail: the flooding continued, and symptoms of dissolution were imminent. In this dangerous state it was thought advisable to inject about two ounces of blood taken from the arm of her husband. The pulse immediately rose a little, and the skin became warmer. The remedies already administered were now repeated, and the flooding did not return. The cure was completed under the use of bark, iron, &c.

Case 2.—A woman, 30 years of age, had suffered during ten hours from severe flooding, when she sank into a state of complete collapse. The remedies commonly employed under such circumstances were administered in vain, and life seemed fast ebbing away, when two to three ounces of blood from the arm of her husband were injected. The symptoms of prostration were immediately relieved; the bleeding stopped gradually, and the female was restored to perfect health under a strengthening mode of treatment.

LIGATURE OF THE CAROTIDS IN INSANITY.

A paper *in Kleinert's Repert.* "On Ligature of the Carotids as a Means of Cure in Certain Forms of Mental Derangement," by Dr. F. Bird, contains some interesting remarks. The author has collected together a certain number of cases of ligature of the carotid arteries, with the object of showing the influence which this operation exercises on the intellectual as well as bodily faculties.

The first case refers to a female 32 years of age, of weakly constitution. Dr. Bjerken tied the common carotid artery for a pulsating tumour below the right ear; the patient had suffered extremely from pain in the head, was quite deaf and at times stupid; the sleep was uneasy, the menstrual discharge diminished, appetite lost. Immediately after the operation the patient recovered her hearing, but was attacked by severe pain in the head, which required the use of leeches, cold, &c. For forty days the patient was unable to leave her bed without bringing on violent vertigo, but after that period she quickly recovered her health and intellectual powers. The second case is reported by Texor in *Chirou*, bd. 2, heft. 2. The third by Mr. Mayo, in the *London Medical and Physical Journal*, December 1829. The fourth case of ligature of the common carotid refers to an operation performed by Dr. Horner in Pennsylvania (*see Repertorium*, April, 7th year, p. 58). The fifth case may be found in Froriep's *Notizen*, vol. 36, Feb. 1833. A child four years and a half old, of scrofulous temperament, was operated upon by Professor Moller of Copenhagen, who, on the 13th September 1831, tied one common carotid artery, and on the 28th January, 1832, tied the other. The operation was successful.

From the above causes the author draws the following conclusions:—

1. One or even both carotid arteries, may be tied without neeessarily endangering life. 2. The operation is not suited to old persons, in whom the venous system predominates, but to young and healthy persons whose arterial system is active.

OPERATION ON AN INFANT'S HAND.

To the Editor.—Sir: The following case is at your service for insertion. Your obedient servant, E. Crisp.

Walworth-road, Feb. 27, 1836.

Aug. 3rd, 1835, I delivered Mrs. Vane, High-street, Camberwell, of a fine healthy boy, but soon after birth discovered that the little, the ring, and the middle-fingers of both hands were united by a firm fleshy substance; the junction between their extremities was *cartilaginous.*

Aug. 17. I separated the little and ring-fingers of the right hand, as far as the metatarso-phalangeal joints; a small artery was divided, but was easily secured; a thick piece of lint was placed between the fingers. The wound was dressed on the fourth day, and perfectly healed on the 25th of August. I operated in the same manner upon the remaining fingers, Aug. 29th, Sept. 29th, and Nov. 24th. The child had very little constitutional disturbance; the fingers at their bases are now united by a thin membranous webb, but the child has the perfect use of them.

Had the operation not been performed at this early period, I believe that bony union would have taken place at the extremities of the fingers. Indeed, in operating on the left hand, I had some difficulty in cutting through the cartilage. Mr. Wardrop (Lancet, 1833) says, "I generally prefer operating on infants a few days old, to waiting until they have reached a more advanced period." So far as one case can have any weight, the above instance proves the judiciousness of this opinion.—*Lancet.*

LECTURES
ON
DISEASES OF THE BRAIN AND NERVOUS SYSTEM,

DELIVERED IN THE UNIVERSITY OF PARIS,

By M. Andral,

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TUBERCLES OF THE NERVOUS CENTRES.

Gentlemen: The several alterations of nutrition and secretion, having their seat in the nervous centres, which we must study in order to render our history complete, may present themselves under a different aspect. The interstitial secretion of the brain may become modified in such a manner, that we find various molecules laid down in place of the nervous atoms, and this change of secretion gives rise to what are generally called accidental productions. We shall take up the history of these bodies; they constitute a class of disease which is the last that is revealed to our senses by the scalpel, and in this respect is distinguished from that far different series, where the functional disorders are sometimes of the most striking kind, although the nervous system appears, on examination, not to deviate in the slightest degree from the normal structure or aspect. The accidental productions, of which we now speak, are various, but the principal amongst them may be comprehended under tubercles and cancer, to which we shall devote our chief attention; we shall pass rapidly over the rest. Let us commence with

The Particular Situations, Size, and Number, of tubercles of the nervous centres. The accidental product, so well known under the name of "tubercle," presents the same appearance and the same anatomical characters, when seated in the brain, as when found in any other part of the body; these are, undoubtedly, known to you all; we shall not, therefore, stop to enter into any details on its pathological anatomy. Tubercles may occupy any portion of the cerebro-spinal axis; however, they are more frequently found in the cerebral hemispheres than in any other part of the nervous centres, and then they exist more often above the level of the lateral ventricles than below them, in the parts nearer the base of the brain. They are very frequently seated in or between the convolutions on the surface of the hemispheres. In some of these cases they are actually developed in the substance of the brain, but in a majority they arise from the pia mater, and, gradually increasing in magnitude, become at length completely lodged in the nervous pulp. Tubercles have also been found in the medulla oblongata; of this we have more than one example; they may occupy the substance of the pons varolii, or either of the prolongations detached from that body to the cerebrum or the cerebellum (*crura cerberi; crura cerebelli*); they have been often met with in the substance of the cerebellum, where they may be seated either in the median, or in one of the lateral lobes. Dr. Mitivie has described a case of tubercle occupying the body known under the name of the "pituitary gland." The spinal marrow is not exempt from this accidental product. Tubercles have been found in all parts of the chord, from top to bottom, and in the bulb. However, we may say, on general principles, that they are more common in the dorsal portion of the spinal marrow than at any other part. They may occupy indifferently either the cortical or the medullary substances, and we have examples where the tubercle was developed within the limit of those two substances, separating them from each other in such a manner that it was difficult to say to which of the two it belonged. *The size of the tubercles* situated in the nervous centres, is very various. In a great many cases they are not larger than a grain of millet seed, presenting themselves under the form and aspect of small round transparent granulations. In others we find them varying from the size of a nut to a hen's egg; tubercles of a much larger volume have

been met with. Thus, for example, cases are on record, where nearly half the cerebrum, or one or both hemispheres of the cerebellum, was transformed into one mass of tubercular matter. *The number of tubercles* of the nervous centres is as various as their volume. In general, they are developed in the same subject in small number only. We often find a single tubercle occupying one of the hemispheres, while the rest of the cerebro-spinal axis is free; in other cases they are disseminated; they may be united in one point, or occupy different portions at the same time, as the cerebrum, cerebellum, and spinal marrow; and, in the latter case, we may find the tubercular matter deposited either at one side of the cerebro-spinal axis alone, or situate at both the right and the left sides. It is evidently a point of some importance to ascertain the

State of the Nervous Pulp immediately around the tubercular deposit; the latter is not always in direct contact with the nervous substance, but is often separated from it by an organized membrane forming a kind of cyst. In many cases the substance of the brain in contact with the tubercle is perfectly healthy. The foreign body being developed in a slow and gradual manner, it does not seem to have exercised any irritating influence on the soft parts around; the nervous matter preserves its normal colour and consistence, and does not exhibit any trace even of congestion. In other cases we find various alterations in the neighbouring pulp; sometimes these are evidently of long standing, such as induration, softening, with purulent effusion, &c., others, again, are more recent lesions, as, for example, hyperemia, red ramollissement, inflammation of the nervous substance, &c.

The membranes may be altered as well as the substance of the brain; thus we frequently find tubercular deposit under the membranes, at the base of the brain, and particularly near the fissure of Sylvius; the membranes are often thickened, studded with fine tubercular granulations, or adherent together, or to the cortical substance, like the pleura in many phthisical patients. We may find pus infiltrated round the foreign body, or more or less serous effusion; this latter complication is the more frequently seen, especially in young children. Indeed, we may lay it down as a very general rule, that tubercles of the nervous centres at a certain period of existence produce the disease called

Acute Hydrocephalus;

and it has been clearly established by the researches made at the *Hopital des Enfans Malades*, that the great majority of children affected with tubercular deposits in the brain, or its membranes, are finally cut off by acute water on the brain. The presence of granulations in the pia mater determines a slow inflammation, which, under the influence of various circumstances, assumes an acute character, effusion takes place within the ventricles, and the child dies in a state of coma. Hence we may draw a conclusion of much practical importance. A certain number of phthisical children are cut off by acute disease of the brain. On examining the body, we find the cavities of that organ distended with serous fluid, but if we look more closely, we generally observe either tubercles in some part of the brain, or a quantity of tubercular granulations in the substance of the membranes. These accidental products, then, become a cause of death, not by their immediate action on the nervous system, but by being an occasional cause of the development of inflammation.

It almost universally happens, that whenever we find tubercles in the nervous centres, we find at the same time

Tubercles in other parts of the Body.

This proposition is true, particularly for children, in whom if we find tubercles in the brain, we are sure to find a similar deposit in the viscera of the other great cavities. The exceptions to the above rule are extremely rare, and it confirms the rule established by M. Louis; however above the age of fifteen years, this is not the case; in the adult person we may have tubercles existing in the brain without their being present at the same time in the lungs; hence, strictly speaking, the law is only applicable to children. So much for the relative anatomy of tubercles in the brain. Now for the

Causes which develop them.

These are evidently the same that favour tubercular deposit in the tissues of other organs; but we cannot dwell upon them here at any length. However, we may permit ourselves to ask a single question, fraught with very interesting consequences, and embracing, perhaps, one of the most important points in the history of disease. Do tubercles of the nervous centres become developed under the influence of an irritating cause? Do we find them, after inflammation of the brain or of its membranes? Do we observe that they are produced as an effect of external violence, or various other causes of irritation? No; a thousand times, no; on the contrary, they are developed in a slow and gradual manner; the deposit of tubercular matter in the brain or meninges, may and often does go on for years without giving rise to the slightest trace of irritation or inflammatory action, in the organs and tissues by which they are surrounded. We certainly may find tubercles, as well as other accidental products, accompanied or even preceded by inflammation or irritation of the part in which they are situated; but these latter actions are far from being a constant, although they are an occasional cause. This is a matter of every-day experience! How frequently do we find tubercles, and particularly in young children, deposited in the substance of the brain! Yet it is impossible to discover that the surrounding nervous pulp has been the seat of inflammation, nor does the previous history of the little patient afford the slightest proof of his having ever laboured under the symptoms of cerebral irritation.

Tubercles of the nervous centres are not equally common at all

Periods of Life.

They are much more frequently observed during infancy than at any other period; thus you may frequent the wards of an hospital exclusively destined for adult or old patients, for many months, without meeting with a single example of tubercles in the cerebro-spinal axis; while, in all probability, if you spend a year at the *Hopital des Enfans Malades*, you will have many opportunities of observing this accidental product in all parts of the nervous centres. These tubercles, however, are not developed with the same frequency at a very early period of existence. In new-born children they are rare; from birth up to the age of twelve months, we may also consider them as rarely occurring; but after this latter period in children who have passed one year, we begin to observe them more frequently, and from two years up to eight, ten, or twelve, we see the greatest number of cases; after twelve years of age, the frequency of tubercles in the nervous centres begins to diminish, and after puberty they again become very rare. Advanced age does not, however, guarantee an individual from the presence of these accidental productions. They have been found after the middle period of life, at forty, or fifty, and even at sixty years of age; but cases at so advanced a period of existence are extremely rare.

The Symptoms

which accompany the development of tubercular deposit in the nervous centres, are very diversified and various. In a great number of cases they do not give rise to any sign whatever. Many children die without having manifested during life the slightest disorder of the nervous system, without having presented any symptom connected with the brain or its functions, yet, in whom, notwithstanding, on examining the body after death, we find one or more tubercles embedded in the substance of the cerebrum. On the other hand, the existing tubercles may be accompanied with more or less functional disorder, and then we find the symptoms presenting themselves under a variety of forms. Thus, in a certain number of cases, the child who from infancy upwards seemed to have enjoyed good health, without suffering under any disturbance of the intellectual or moving powers, is suddenly, without any appreciable cause, seized with grave and violent symptoms; he is attacked with a convulsive fit resembling epilepsy; the accesses are repeated at longer or shorter intervals, coma then supervenes, and the child dies in a state of unconsciousness, or in the midst of general convulsions. After death we find tubercles in the hemispheres of the brain, or in the cerebellum. In other cases the symptoms come on in the midst of bad health; the child is weakly, and of a cachectic appearance; he has for a long time complained at intervals of headache, to which perhaps a slight febrile access may be added; the bowels are alternately relaxed and constipated, and the child often complains of his belly; he has gradually become thin, although the appetite does not seem much altered. In the midst of this state we suddenly observe certain lesions of movement, which are of various kinds; at one time imperfect paralysis, at another, convulsions, &c. depending entirely on the derangement produced in the functions of the nervous system by the presence of the foreign body. Finally, some children present these or other grave accidents once only: the first attack kills them. Thus, you see, we have distinguished

Three Cases under which the Symptoms of Cerebral Tubercles may be observed.

In one the child, previously healthy, is suddenly attacked by convulsive movements, which terminate in coma. In the second, the patient's health has been for a long time feeble, and the symptoms are neither very grave, nor march in a rapid manner. Finally, in the third case, the symptoms are declared and terminate at the same instant, the patient being cut off by the first attack.

Let us take the second case as the most frequent, as affording the ordinary type of this disease. What are the symptoms which we observe there? The first and most remarkable is headache, which either constantly torments the patient, or only comes on at certain intervals, and in an intermitting manner; in some children this is the only functional disturbance that we observe for a length of time; the pain in the head returns again and again, in spite of all our efforts to guard against its recurrence, and betrays the presence of tubercles in the cerebral substance; in other patients we see various lesions of motility; the child drags one of the lower limbs after him, or is affected with convulsive movements in different muscles; in a word, motility is variously modified, according to the degree of compression or irritation that exists in the surrounding nervous pulp; the tubercle, acting in these cases as a foreign body, produces congestion in some, in some ramollissement, in others true inflammation of the brain, and the symptoms thus often depend more on the complications which accompany tubercle, than on the actual presence of the accidental product itself in the brain.

These symptoms may be either constant or intermittent; when they manifest themselves in a constant manner, we may have either weakness of the muscular power, paralysis, or convulsions; in other cases the symptoms are intermittent, and then we find the patient attacked from time to time with fits closely resembling an epileptic access. The intellectual faculties are variously modified; in several cases they remain intact; in others the intelligence is more or less troubled; the memory is weakened and the speech embarrassed. If we turn our attention to the phenomena afforded by nutritive life, we find that there tubercles of the nervous centres give rise to frequent accidents; the most striking of these is vomiting,—vomiting of an obstinate nature, which recurs again and again, unattended with signs of gastro-intestinal inflammation, but evidently connected with some disturbance of the sensorium.

These are the principal accidents that occur with tubercles of the cerebral hemispheres,

and if we consider these symptoms in their *ensemble*, we shall find them presenting themselves under two chief forms, to which all the rest may be reduced—viz. constant headache, with paralysis of the limbs, or headache coming on at uncertain intervals, attended by convulsions. Let us now turn our attention elsewhere, and see whether tubercles, seated in other parts of the nervous centres, give rise to a different set of symptoms. Tubercular masses have been found

Occupying various parts of the Mesocephale. (the *pons varolii*). What were the symptoms observed in those cases? Nothing special; the presence of a foreign body in the pons was not announced by any symptom differing in a notable manner from those already mentioned. In one case, recorded by M. Larchet, chorea existed, with tubercular deposit in the pons varolii. Tubercles are also frequently met with

In the Cerebellum.

We possess numerous cases in which this organ has been the seat of tubercular secretion; we have made an analysis of twenty cases, in which the tubercles were strictly confined to the cerebellum, and shall now proceed to lay before you a brief account of the results we obtained. In seventeen of these cases, headache, occupying the occipital region, was the predominant symptom of the disease. In one case there existed a constant vertigo, or giddiness; the symptom was very strongly marked, and whenever it became violent, the individual fell suddenly down in a kind of fit, but without loss of consciousness, or foaming at the mouth. In only one single case do we find a modification of the general sensibility mentioned: there the whole skin, towards the end of the disease, became very painful; the least touch of the skin covering the limbs and trunk was followed by acute sensation of pain, but perhaps this exaltation of the cutaneous sensibility depended upon the presence of partial meningitis rather than from any action exercised by the tubercle itself. In the twenty cases which we have examined, the sense of seeing was either lost, or more or less weakened, in seven patients. We do not find that the tubercle occupied any particular seat in these seven cases of complete or partial amaurosis; sometimes the foreign body was situate at the superior surface of the cerebellum, sometimes at the inferior surface, now in one lobe, now in another; or it occupied the very centre of the organ. Hence we are unable to explain the loss of sight by localizing the disease to any portion of the cerebellum, but we cannot enter again into this question, which was disposed of in a former part of our course. In a great majority of cases the intellectual faculties did not present any modification worthy of notice. In five we find the intelligence was more or less enfeebled, but in all the rest it remained perfectly intact until within a few hours before death. The faculty of motion is troubled much more frequently by the presence of tubercular deposit in the cerebellum; in eight of the twenty cases, we find paralysis more or less complete. In some cases the loss of motion was confined to one side of the body, constituting hemiplegia; at other times the members on both sides of the body were attacked, and principally the lower extremities, while the superior had merely lost a part of their accustomed force. In one case, where the foreign production was of very great size, the four limbs together were almost completely paralyzed. These, then, are the principal modifications which the paralysis presents, and when we have not complete loss of motion, we find that the patients are affected with more or less muscular debility or with convulsions. The latter symptom is by no means an unfrequent one. Thus, in seven cases, we find violent convulsions, and here the access was sometimes so severe as to produce loss of consciousness, and all the symptoms of epilepsy.

We saw a little while ago how tubercles situated in the hemisphere of the cerebrum very frequently gave rise to a disturbance of the functions of nutritive life, amounting to vomiting, or constant nausea. The same phenomena are seen in cases of turbercle occupying any part of the cerebellum. In eight cases out of the twenty, we find vomiting mentioned as a predominant symptom; sometimes it was very obstinate and frequently repeated; at others, functions of the stomach were only troubled from time to time; while, in other cases, again, instead of vomiting, we find constant nausea. It is impossible to connect this symptom with any special lesion of the cerebellum. And remark how vomiting very frequently exists as a sign of various different maladies of the nervous centres: there is probably some change in the nervous organization which would explain why vomiting is present in certain cases and absent in others; but the conditions have hitherto escaped our notice. We presume the existence of different states or causes when we see the production of different phenomena or effects, but these causes are unknown to us, as are also those intimate changes of organization which, being superadded to identical lesion, render their effects so various and diversified.

To be continued.

COMPARATIVE SUCCESS OF LITHOTRITY AND LITHOTOMY.*

According to Velpeau, it appears that in 1827 Civiale had operated by lithotrity upon 87 patients. Of these 38 died, 3 retained the calculi, 42 were cured, and 19 of them met with severe accidents. In 1830, a new list of 24 calculous cases exhibited 13 cures and 11 deaths; and a subsequent list of 53 cases, had 30 cures, 15 deaths; in 8 the stone was retained. In a 4th statistical table published by Ledain, of 30 cases, 18 were cured, 8 died, and 4 retained the calculi. Of 14 cases treated by Bancal, 2 were cured, all the rest died or retained their calculi. Omitting Bancal's cases, this gives us a total of 194 cases—103 cures and 72 deaths, or the deaths to the cures are as 1 to 1·43.

* Bibliotheque Universelle, April, 1835.

Lisfranc answers this statement of Velpeau from Civiale's paper in the *Dictionaire de Medicine*, from which it appears, that during 8 years from 1824, Civiale has treated 426 patients, comprehending 14 children, 190 adults, and 225 aged persons, or 419 males and 10 females. Of these, 244 were operated on by lithotrity, 236 were cured, 5 died, and 3 continued to suffer. Of the remaining 185, 88 were cut, of whom 48 died, 32 were cured, and 8 were not benefited. These operations were performed, 13 by the lateral section, 9 by the bi-lateral method, and 39 by the hypogastric proceeding. In 27 of the latter cases, the issue was not known. The statement of Velpeau with regard to Bancal's cases is not correct: 4 recovered instead of 2. Hence, the mortality of Civiale's cases was trifling, or 1 in 27.

Lithotomy. According to Velpeau, there were, at the Hopital de la Charité from 1719 to 1728, 1200 operations of lithotomy, of which 945 were cured, and 255 died. At Luneville, of 1629 cases, Sauccrotte had 1482 cures. Dupuytren lost by this operation 61 out of 356. At Norwich, of 506 operations, there were 70 deaths; Leeds, 197 operations, 28 deaths. Cheselden had 213 operations and 14 deaths; Frere Come 100 cases, 19 deaths; Souberbielle 133 cases, 17 deaths; Dupuytren, by the lateral method, 70 cases, 6 deaths. Cross, in his Jacksonian prize essay, describes 704 operations, and only 93 deaths among these. Renzi, at Naples, had 389 cases, 60 deaths. Pajola lost 5 in 50; Panza 5 in 70; Ouvrard 3 in 60; Virice 3 in 83; Martineau, in England. 2 in 84; Dudley, in America, 1 in 72; Smith, in America, 1 in 18; Chelius, in Germany, 1 in 22; Petrunti, at Naples, 1 in 25, in private practice; and Santoro 1 in 56.

To these statements Lisfranc answers, that from 1720 to 1727, there were only 208 operations, at the *Hopital de la Charité*, and 71 deaths, that is, 1 in 3. Moraud gives another table from the Hotel Dieu of 604 operations in which there were 184 deaths— 1 in $3\frac{1}{4}$. Another table, at La Charité, from 1731 to 1735, gives 72 operations, and 32 deaths. The success of Saucerotte is accounted for by the number of females operated on, viz. 65, on whom the operation is much less dangerous, and of these 65 only two died. Then there will remain 1564 males cured, and 145 deaths, or 1 in 11. Of these 1564, 1119 were below 13 years of age, and only 66 cases between 41 and 78 years. The English cases are also accounted for on the same principles. Lisfranc gives little credit to the statements of Cheselden, Petrunti, Pajola, &c. according to the most recent returns from the Neapolitan hospitals, the loss was 1 in 7. He infers, therefore, that Velpeau has under-rated the success of lithotrity, and over-rated that of lithotomy. He observes, that lithotrity is indicated, 1. Where the calculus is small, and the urinary organs healthy. 2. Calculus a little larger, with a healthy bladder. 3. Two small calculi, healthy bladder. 4. Three small calculi, bladder healthy. 5. Calculus the size of nut, but soft, urinary organs healthy. And lithotomy is indicated, 1. When the calculus is large and hard. 2. Calculus flat (mural). 3. Calculus large, with vesical catarrh. 4. Two large calculi. 5. One calculus filling the bladder.—*Records of Science.*

CORRESPONDENCE.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—With reference to the account of the fuqueer of Jaisulmer, which was published in your number for August, I have been requested by Lieut. A. D. MacNaghten, assistant agent to the governor-general in Rajpootanah, to state, "that he has no knowledge of the fuqueer, and was not aware of his existence until the paper regarding him, copied into the *Hurkaru*, met his eye. I have communicated with Lieut. Boileau on the subject of Lieut. MacNaghten's letter. Lieut. Boileau is sorry (and so am I) that Lieut. MacNaghten's name should have been brought forward in this manner, as it is evident, from his denial of all knowledge of the fuqueer, that some other gentleman of the same name, or of one pronounced like his, must have been the party alluded to.

I regret the occasion which compels me to trouble you to insert this letter.

I am, Sir, your obediently,
H. M. Tweddell.

Bancoorah, Sept. 21, 1836.

STAFF SALARY TO REGIMENTAL MEDICAL STAFF OFFICERS.

The following is the memorial sent in to Government on the above subject. The memorialists have not as yet received a reply.

The Right Honorable the Governor General of India in Council. The memorial of the undersigned Medical Staff of Corps, serving in the Cawnpore Division of the Army, humbly sheweth,

That your memorialists, members of the medical staff of the Bengal army, beg respectfully to submit to your Lordship in Council circumstances relating to their pay and allowances when on leave, whether upon sick certificate or private affairs, which they consider press peculiarly hard and unequally upon them.

Your memorialists beg to bring to your Lordship's notice that all staff officers, general and regimental, military and medical, when present on duty receive, in addition to regimental pay and allowances, a certain staff salary. All these officers, with one exception, when on leave of absence,

draw a moiety of staff salary along with regimental pay and allowances. The exception to this general rule is in the case of regimental medical staff who, under exactly similar circumstances, are made to forfeit, not a moiety only, but the whole of their staff salary, receiving regimental pay and allowances alone.

Your memorialists feel assured that your Lordship in Council will allow, that regimental medical staff are, from the nature of their duties, necessarily obliged to expose themselves to the influence of a tropical climate both by day and night, and to suffer a degree of anxiety of mind, beyond other officers or the members of perhaps any other profession, which must render them much more liable to require leave on medical certificate ; it appears therefore to your memorialists peculiarly hard that medical regimental staff should be compelled to give up their whole staff salary when military regimental staff and all general staff officers, forming so very considerable a portion of the army, are permitted to draw a moiety. It is hardly to be wondered at, that the health or even lives of regimental medical staff sometimes fall a sacrifice to their inability or unwilingness to sustain so heavy a pecuniary loss as is entailed upon them by this painful distinction.

With respect to leave on private affairs, your memorialists deem that it will be conceded, that to no officers in the service is the indulgence of a temporary relaxation from mental and corporeal exertion more essential, and that regimental medical staff are not more exempt than other staff from those urgent causes which render leave on this head occasionally imperative.

Your memorialists beg respectfully to urge upon the attention of your Lordship in Council that while the Government contribute to the comfort and respectability of all general and of military regimental staff, by granting a moiety of staff salary while on leave, and are content neither to gain thereby advantage nor sustain loss ; by refusing on the other hand a similar indulgence to regimental medical staff, the Government actually render their misfortunes and necessities a source of very considerable profit to the state, but a severely aggravated burden for medical officers to bear.

Regimental medical staff of cavalry and horse artillery are still more injuriously affected by the existing regulations respecting pay while on leave, for they forfeit while absent, either on sick certificate or private affairs, in addition to their staff salary, their cavalry pay and horse allowances, although they are necessarily as much obliged to keep up chargers and cavalry appointments as other cavalry or horse artillery officers, who however do not lose these allowances while on leave.

Your memorialists trust they have submitted their case in a manner sufficiently clear to induce your Lordship in Council to view this painful exception to the regulations respecting staff salaries as a peculiar hardship and injustice to them, and to grant the prayer of their petition, that they may be placed in the same relative position with other regimental staff, and with officers medical as well as military on the general staff, when on leave of absence either on sick certificate or private affairs.

In conclusion your memorialists humbly conceive that your Lordship in Council has the power to grant the object of their earnest solicitation. Should however a reference to the Court of Directors be deemed requisite, they trust your Lordship will be pleased to transmit this memorial to the honorable court, supported by the weight of the recomendation of your Lordship in Council. And your memorialists as in duty bound will ever pray.

A CORPS OF SUBORDINATE MEDICAL DEPARTMENT.

We understand that the Medical Board have recommended to Government a plan for raising such a corps, which is unquestionably a desideratum, and, if supplied, will be of great public benefit in meeting the wants of out stations.

MEDICAL AND PHYSICAL SOCIETY'S MEETING.

Saturday, September 3, 1836.

Mr. Corbyn, in the chair.

Present Dr. J. Jackson, Mr. Egerton, Mr. O'Shaughnessy, Dr. Bain, Mr. Ledlie, Dr. McClelland, Dr. Goodeve, Mr. Dodgson, Mr. Brett, Dr. Cantor.

Letters from the following gentlemen were read.

From B. P. Rooke, and A. Montgomery, Esqrs., assistant surgeons of the Bombay Establishment, requesting that their names might be withdrawn from the Society.

It was proposed by Dr. Goodeve, seconded by Dr. J. Jackson, that a certain sum be set apart annually from the funds of the Society for the purchase of standard medical

works, and that the number of periodicals taken by the Society should be increased.

This resolution was unanimously agreed to, and it was referred to the Committee of Management to make the necessary arrangements for carrying it into effect.

A report drawn up by Dr. Cantor of some experiments, performed by the Committee entrusted to examine the substance brought from Assam by Dr. Wallich, and supposed by him to be analogous to the æmitum ferod, was then read.

From these experiments it would appear, that the above root is altogether innocuous, and cannot be identical with the Nepal poison. It was inserted into the flesh and injected into the stomach of several dogs without producing any effect whatever. The alcoholic and watery extracts, the powdered root alone, and mixed with the dillenia speciosa (in the manner described by Dr. Wallich as followed by the Assamese), were severally tried with the same result.

The following papers were then read and discussed.

The conclusion of Dr. Wise's paper on mortification, postponed from the last meeting.

Dr. Campbell's cases of rupture of the spleen and kidney.

The 2d species of gangrene or symptomatic gangrene is divided by Dr. Wise into that of tissues and of organs. The 1st variety is again subdivided into mortification, as produced by diseases of the vascular system of the cellular, mucous, and osseous tissues. Under the first head is comprehended cases of gangrene caused by inflammation and other unnatural conditions of the vascular system, as ossification of the arterial coats, obstruction of the circulation in the extreme parts of the body, diseased valves of the heart,—causes which lead to a diminution of the nourishment and vitality of the extremities. Mortification occurs in consequence of inflammation, when a vital part is excited beyond what is natural or to a greater degree than its inherent powers will sustain; hence it occurs most frequently in the extreme parts of the body and in weak individuals, and it attacks tissues which are endowed with a trifling degree of vitality in preference to those which are highly vital. In speaking of gangrene as it occurs in weak, debilitated individuals, the author remarks upon the danger of amputating the limbs of these people, from the great probability that the disease will attack the stump and destroy the patient. He observes also that in these cases there is a great predisposition to phebitis, which should make us peculiarly careful how we excite that disease by tying or otherwise irritating the veins after amputation, should that operation be performed. Dr. W. quotes some cases in illustration of these remarks. Mortification of the cellular tissue is said by the author to be very frequent from the low state of vitality of that structure. In this variety is included erysipelas, phlegmonodes, carbuncle, and sloughing of sores, especially syphilitic ulcers and buboes. Mortification of the mucous tissue is divided into gangrene of the mouth, of the throat as in angina gangrenosa, and of the stomach and intestines. With regard to the 2d variety of this species of mortification or gangrene of organs, Dr. W. observes that it is exceedingly rare; but, when present, is almost invariably fatal. The brain, lungs, and liver are occasionally found gangrenous.

The 3d species of mortification is called specific gangrene by the author. In this species are included mortifications produced by the use of improper articles of food or innoculation with animal poisons. The first relates chiefly to the ergot of rye. The second is subdivided into several varieties: 1st, malignant pustule, or a species of sloughing boil occurring in unhealthy situations, amongst weak and debilitated individuals, and those who are employed as attendants upon animals affected with pustular diseases and carbuncles; the diseases being attended with considerable fever and constitutional disturbance often proving rapidly fatal; 2nd, pestilential bubo, occurring in the course of the plague; 3d, hospital gangrene, of which a very elaborate and lucid description is given: in the course of which Dr. Wise remarks upon the frequency of this disease in India, amongst prisoners in the jails of Bengal. Under this head the author includes sloughing phagedena of a venereal character. The author speaks warmly of the employment of nitric acid in sores of this description as well as those of hospital gangrene more strictly speaking. The 5th and last variety mentioned is leprosy, which not unfrequently produces gangrene of the extremities.

Mr. Egerton considered hospital gangrene and phagedenic ulcers to be distinct affections: the latter may occur in a constitution otherwise healthy, whilst the former supervenes on constitutions affected with low fevers. The best means to be adopted for arresting hospital gangrene is by application of caustics and acids. Children, born in this country of European fathers by native women, labouring under spleen, are frequently affected with sloughing sores of the face, the bones of which are easily separated from the mass of mortified substance. He, Mr. Egerton, would be glad to learn from a gentleman of Mr. Brett's celebrity and experience, whether he had observed many cases of sloughing sores in Hindostan. Mr. Brett said that such cases were of rare occur-

rence in the upper provinces, but that he had seen some in children originally from Bengal of a peculiar cachectic habit of body.

Dr. Goodeve differed from the opinion expressed by Mr. Egerton touching the distinction between hospital gangrene and phagedena; he did not think the latter often occurred in a sound constitution. He would instance, in support of his position, the numerous cases of phagedenic ulceration which occurred amongst the prostitutes in large towns; for example, he recollected the case of a woman in St. Bartholemew's Hospital, who suffered from phagedenic ulceration every time she contracted syphilis, which was several times within his knowledge. Such were the ravages by sloughing that the whole external parts of generation came away. The farther spread of the virus was only arrested by nitric acid. Dr. Goodeve then adverted to the effects of mercury, and although he was no advocate for the extensive use of mercury (indeed he had written a thesis against it), still he was bound to admit its efficacy in two cases of sloughing at Midnapore, when all other means had failed. One was of chancre: a sloughing of the parts took place extending over the scrotum and all the inside of the thighs and lower abdomen; his native doctor suggested the trial of mercury, which, in a few days, effectually stopped the sloughing altogether. The other case was precisely similar in treatment and result. He had seen cases at Bartholemew's Hospital under Mr. Lawrence, of a similar description, also yield to the same remedy.

Mr. Egerton considered sloughing chancre and that of phagedena distinct affections.

Mr. O'Shaughnessy remarked that all phagedenic ulcers or sloughing chancres were treated by Porter in Dublin with mercury: he concurred in the opinion expressed by Dr. Goodeve as regarded the distinction between sloughing chancre and phagedena.

Mr. Egerton adhered to the opinion he had expressed: he had never seen the hospital gangrene but in two cases; the hospital at the Lower Orphan school was crowded, children came in with fever; head hot, countenance sunk, and continued in a state of low fever from 10 to 15 or 20 days; when, in one case especially, sloughing supervened: an ulcer first appeared on the *clitoris* spreading to the mons veneris and the labia, which sloughed off: this girl recovered.

Mr. Corbyn said that he had seen the case Mr. Egerton alluded to, in the Lower Orphan school, and greater devastation of parts he had never witnessed; and he could not help expressing his surprise to hear from Mr. Egerton that the girl had recovered. Mr. Corbyn was satisfied that phagedena supervened on debilitated and disordered constitutions. He had seen a great deal of these affections, especially in Arracan, where they resisted every application tried, many of which had proved efficacious in removing similar affections elsewhere. Phagedena invariably supervened when the constitution had been previously debilitated by repeated attacks of the Arracan remittent fever. A great number of patients had been sent to a hospital instituted at Barrackpore for their reception, but failure, as to every means adopted, was the lamentable result.

Dr. Goodeve enquired whether in these cases the spleen was affected?

Mr. Corbyn said that the spleen was always more or less affected in the Arracan fever.

The first of Dr. Campbell's cases occurred in a recruit of the horse artillery, 22 years of age, who received a kick from a horse on the left side on the 10th November, 1828. He fell to the ground breathless but sensible, and when brought into the hospital presented all the symptoms of having received some violent internal injury. The respiration was exceeding difficult, the countenance pale, shrunk, and anxious, and the extremities cold; the pulse was not perceptible at the wrist, and he moaned frequently: slight reaction took place afterwards, when he complained of great pain in the region of the spleen and hypogastrium. The next day the abdomen was much enlarged, and fluctuation was manifest; he had again sunk into a death-like condition, and he expired 30 hours after the accident. Upon dissection the abdomen was found to be filled with dark coloured blood. The spleen much above its natural size was broken on its surface into three separate portions, resembling a mass of coagulated blood: the other organs were healthy. It is not known whether this individual had previously suffered from enlarged spleen or intermittent fever.

The second case was that of a syce of the horse artillery, whose horse reared and fell back upon him, crushing him under his body. The thigh bone was fractured at its upper third, and he complained of great pain at the umbilicus and scrobiculus cordis, with laborious respiration and urgent thirst: the pulse small and weak, with natural heat of skin; he continued restless and tortured with pain for about 5 hours, when he expired. Upon dissection the abdomen, as in the other case, was found to be filled with dark coloured blood; the spleen was broken into a mass resembling coagulated blood; the left kidney was ruptured along the entire length of its convexity: no external signs of violence were observed. The spleen was of the natural size, but the ruptured kidney was larger than ordinary and of an unusually pale colour.

MEDICAL AND PHYSICAL SOCIETY OF BOMBAY.

The advancement of medical and physical science has been so manifestly promoted by the publication of the transactions of learned societies, that we are glad to see the spirit of research is about to be extended by the opening of a fresh avenue at Bombay. By the establishment of a medical and physical society at that presidency, pathological science will be greatly improved, and digested results of experience in clinical practice, no doubt, more extensively promulgated. When we look into the Transactions of the Society at Calcutta, we are struck with the numerous able papers which have been communicated by our talented brethren at Bombay, who are the founders of the institution to which we have alluded as a fresh instance of their zeal. We trust they will receive our congratulations and the expression of our best wishes for their success.

Proceedings from April 15th to May 15th 1836.

MEMBERS ELECTED.

Corresponding.

J. A. Dunlop, Esq. Principal Collector of Dharwar.

ORDINARY.

A. Gibson, Esq. Assistant Surgeon, Bombay Establishment—D. Macleod, Esq. M. D. Deputy Inspector General of Hospitals, Madras—P. Stuart, Esq. Assistant Surgeon, Bombay Establishment.

COMMUNICATIONS PRESENTED.

1. A letter from J. A. Dunlop Esq. Collector of Dharwar, informing the Committee that, for a number of years past, a system had been in operation for ascertaining with tolerable accuracy the rates of mortality in the city of Ahmedabad, and suggesting the probability that this accumulated information might lead to useful results.

2. A letter from P. Stuart, Esq. calling the attention of the Committee to the circumstance, that stations were, generally speaking, imperfectly supplied with instruments for meteorological enquiries, and suggesting the propriety of some measures being adopted to remove this difficulty.

3. A letter from Dr. Ranken, Officiating Secretary to the Medical Board of Bengal, acknowledging the receipt of a copy of the Society's Regulations and expressing the hope of the Board, that unqualified success might attend the Institution, and that it might be productive of as much benefit on the western side of India as the Medical and Physical Society of Calcutta had been on the other.

4. A letter from Dr. Macleod, Deputy Inspector General, Madras, expressing the interest which he felt in the success of the Society, and offering the assistance of his office for the furtherance of its objects.

5. A letter from the Secretary to the Medical Board of Madras, conveying the acknowledgments of the Board for the copy of Regulations of the Society, transmitted for their acceptance, and communicating the intention of the Board to present to the Society copies of the different volumes of Medical Reports published under the inspection of the Board.

6. A case of diseased heart—hypertrophy of both ventricles with dilatation of left and morbid state of the aortic valves, by R. H. A. Hunter, Esq. Assistant Surgeon 2nd or Queen's Royal Regiment.

7. Geological notes on the Northern Concan and a small portion of Guzerat and Kattywar, by Charles Lush, Esq. M. D.

8. Extract of a letter from the Acting Collector of Ahmedabad, relative to the great sickness and mortality in that Zillah during the year 1834-35, presented by T. Williamson, Esq. Revenue Commissioner.

9. Forty seven Native Reports of the state of health and amount of mortality in the Principal Cusbas, in the Zillah of Tannah.

ABSTRACTS.

Mr. Hunter's case of diseased heart occurred in a soldier æt 35, of stout habit, who had served ten years in India, in the enjoyment of good health till within two months of admission into Hospital, February 2nd, 1836, during which latter period he had suffered more or less from dyspnœa on exertion.—He further stated, that he had been three months in Hospital in England for a rheumatic affection. During his residence in Hospital there was frequent dyspnœa aggravated by exertion and after a short period of temporary improvement œdema of the feet and ankles came on, the dyspnœa gradually increased, and on the 7th March there was aggravation of cough with copious expectoration of blood continuing more or less, till the period of his death on the 15th March.

Physical Signs—On the 5th February, fulness over the cardiac region, strong visible pulsatory action of the heart, subclavian, and carotid arteries. Deficient resonance over a greater than natural extent of the anterior part of the left side of chest in the neighbourhood of the cardiac region. "Second sound of heart marked by prolonged sawing murmur over all the sternum, but particularly about its centre; also over left cardiac region, particularly at sternal junction of 4th cartilege, audible under subclavian and left subscapular regions. Small bellows murmur over sternum and sternal extremities of both clavicles, but without tremor or marked pulsation; systole of heart obscure, but I think short, though it cannot well be compared with disatole owing to the sawing murmur. Impulse strong, jogging and heaving over left cardiac region to very edge of sternum and even under that bone."

Inspection.—Abdomen contained some pints of serum, liver indurated and granular. Right lung in the three stages of inflammation, part of lower lobe in that of purulent infiltration. Pericardium contained six or eight ounces of serum. Heart much enlarged, the walls of both ventricles considerably thickened with slight cartilaginous deposit at the free border of mitral valves, more deposit in the aortic valves; one of them corrugated and knotty, having a perforation in the centre that would admit a pea. "Aorta except at very base smooth and healthy."

The communication concludes with remarks on the rationale of the stethoscopic indications; of the probable manner in which the lungs became implicated in the diseased actions, and on the probability that the disease of the heart had relation to the rheumatic affection under which the patient had formerly suffered.

2. Dr. Lush's paper contains a statement of the geological phenomena of interest observed in a tour made in those parts of the country of which it treats.—These and former experience dictate a few remarks on some of the general principles of the science.

The horizontal strata of sandstone of different degrees of aggregation observed in passing from Bassein to Surat are described.—These strata evidently overlay the trap formation, and may be seen in different localities throughout this tract.—The neighbourhood of the town of Mahim (Northern Concan) and the Fort of Seergaum afford an excellent illustration.

In the proximity of positions where there is evidence of shifting strata and other phenomena of change, there is a Mussulman burying ground with exposed human bones: these circumstances, it is remarked, are likely at some future time to lead to a mistake similar to that committed in regard to Gaudaloupe.

The common belief that the trap formation extends to the Nerbudda is called in question—the fact appearing to be that it ceases on the Coast between Bulsar and Gundavie, the last trap hills being those called Doongree. From Gundavie to Surat there are strata of clay of various forms containing kunkur.

Then follows a description of the geological position in the neighbourhood of Ruttunpoor in which the Carnelians are found. It is in a bed of red gravel, very like the London gravel, and in it are found pebbles of various forms and sizes of the different varieties of calcedony, irregularly imbedded and not in layers like flints in chalk. This bed of gravel is considered to be partial and to overlay the sandstone and conglomerate strata. The conglomerate rock of the Island of Perim in the Gulf of Cambay is then described. Dr. Lush found in that formation, along with other organic remains, fossil bones which are to be sent to Calcutta for identification.

In the more general remarks, attention is directed to the opinion entertained by some geologists, that the magnitude of tropical vegetation is a conservative power equal to meet the destructive agency of water, &c. It is stated that whatever grounds there may be for this opinion in the West Indies and South America, it is quite untenable as regards the old continent where there is no such conservative power worthy of consideration. This remark is grounded on observations made in Guzerat, the Deccan, and Malabar.

Meteorology.

To ensure that uniformity essential to the value of a series of meteorological observations, the following mode of observing, registering, and calculating, is recommended for general adoption. Observers, anxious to pursue the science more in detail, can make the additions necessary to meet their respective views.

Instruments.—Two thermometers, one with the bulb dry, the other with the bulb constantly wetted, to be placed near to each other and freely exposed to the external air in an open and shaded verandah removed from all sources of radiation and reflection of caloric. A north-easterly exposure is the most desirable, as being the least liable to be affected by the solar rays.

Two observations to be made daily, viz. at the hours of minimum and maximum temperature. These hours will be found to vary in different climates, but may easily be ascertained by making observations every hour or second hour for two or three days. In tropical climates the minimum will generally be about day light and the maximum about two P. M.

The object of the thermometer with the wetted bulb is to afford information relative to the comparative state of moisture of the atmosphere, by observing the temperature indicated by it and by the dry bulbed thermometer, and recording the difference or depression, e. g.:

Dry bulb.	Moist bulb.	Depression.
80	70	10

The difference or amount of depression of the temperature of the wetted thermometer will vary according to the amount of evaporation from the surface of its bulb, and this latter event will of course depend on the greater or less degree of moisture in the atmosphere at the period of observation.

For comparison of one day with another, one month with another, or one place with another, the hygrometrical information thus acquired, though not minute, will be valuable.

The bulb of the thermometer can be kept constantly wetted without difficulty, by covering it with two folds of thin muslin and passing a few threads of worsted between them. A small weight to be attached to each end of the threads and placed in a cup; one to be fixed on a stand above the bulb and kept filled with water; the other cup to be fixed below the bulb for the purpose of receiving the water which may pass from the upper one along the threads; or the bulb thus arranged may be wetted as the hour for observing approaches.

TABLE.

Meteorological observations at *for the month of*

1836.	Thermometer.				Pluviometer.			Wind.				Weather, &c.	
	Minimum at.. A. M.		Maximum at...P. M.					A. M.		P. M.			
Dates and Phases of the Moon.	Temperature.	Depression of wet bulb.	Temperature.	Depression of wet bulb.	During night.	During day.	Total.	Direction.	Force.	Direction.	Force.	A. M.	P. M.
1													
2													
3													
4													
5													
6													
7													
8													
&c.													
means													

The table to occupy the full breadth of an open sheet of foolscap paper, one half for the tabular portion, the other for the remarks on the weather, clouds, &c. On the reverse side of the sheet the following results to be noted.

Mean Temperature.
,, Maximum.
,, Minimum.
,, Daily variation.
Extreme Maximum.
,, Minimum.
Mean depression of moist bulb.
Extreme ,, ,,
Amount of rain, Inches.
Number of days on which rain fell.
Prevailing winds .. { A. M. / P. M.

General remarks on the weather of the month, embracing a recapitulation of the leading phenomena, &c.

MODE OF CALCULATING.

In calculating, let each column of daily observations be added up and divided by the number of days on which observations have been made, the quotient will be the monthly mean of each column.

To determine the mean temperature of the month, add together the monthly means of the minima and maxima observations and divide by 2, the quotient will be the mean temperature of the month.

To obtain the mean daily range for the month, subtract the monthly mean of the minima observations from the monthly mean of the maxima observations, the remainder will be the mean daily range.

Should tables of this nature be forwarded regularly by members of the Society, the information they contain will be from time to time communicated to the Society in a condensed form.

Before concluding, the Committee would direct the attention of members to the following extract from Sir J. Herschell's instructions for making and registering meteorological observations in Southern Africa, &c. They would strongly recommend the co-operation required, and will have much pleasure in being the channel of its transmission to the secretary of the South African Literary and Philosophical Society.

"With a view, however, to the better determining the laws of the diurnal changes taking place in the atmosphere and to the obtaining a knowledge of the correspondence of its movements and affections over great regions of the earth's surface or even over the whole globe, the Committee have resolved to recommend, that four days in each year should henceforward be especially set apart by meteorologists in every part of the world, and devoted to a most scrupulous and accurate *registry* of the state of the barometer and thermometer, the direction and force of the wind; the quantity, character and distribution of the clouds; and every other particular of weather, throughout the whole twenty-four hours of those days, and the adjoining six hours of the days preceding and following.* The

* "This is necessary by reason of the want of coincidence of *the day* in different parts of the Globe, arising from difference of longitude. In order to obtain a complete correspondence of observation for 24 successive hours over the whole Globe, it must be taken into account that opposite longitudes differ 12 hours in their reckoning of time. By the arrangement in the text the whole of the *astronomical day* (from noon to noon) is embraced in each series, and no observer is required to watch two nights in succession."

days they have been induced to fix on and recommend for these observations are, the 21st of March, the 21st June, the 21st September, and the 21st December, being those or immediately adjoining to those of the equinoxes and solstices, in which the solar influence is either stationary or in a state of most rapid variation. *But should any one of those 21st days fall on Sunday, then it will be understood that the observations are to be deferred till the next day the 22nd.*

The observation at each station should commence at 6 o'clock A. M. of the appointed days, and terminate at 6 o'clock P. M. of the days following, according to the usual reckoning of time at the place. During this interval, the barometer and thermometer should be read off and registered hourly, or at all events, at intervals not more than two hours asunder, and the precise hour *and minute* of each reading should be especially noted.

For obvious reasons, however, the commencement of every hour should, if practicable, be chosen, and every such series of observations should be accompanied by a notice of the means used to obtain the time, and when practicable by some observation of an astronomical nature, by which the time can be independently ascertained within a minute or two,* as there is scarcely any class of observations by which meteorology can be more extensively and essentially promoted, it is hoped that not only at every station of importance in this colony, but over the whole world, and on board ships in every part of the Ocean, individuals will be found to co-operate in this enquiry. Every communication of such observations addressed by channels as secure and as little expensive as possible to the secretary of this institution, will be considered as highly valuable."

Henceforth the circulars will be forwarded only to members of the Society.

C. MOREHEAD,
SECRETARY,
Medl. & Physl. Society.

Bombay, May 1836.

EXTENSION OF PAYMENT OF ARREARS TO THE MEDICAL FUND TO THREE YEARS.—This measure was proposed by us at a meeting of the managers. All present concurred in the proposition; the resolution is to be submitted for the decision of subscribers at the next quarterly meeting, and as the extension infringes on no fundamental rule, we have no doubt it will be carried.

* For example the first appearances and last disappearances of the Sun's upper and lower border, above and below the sea horizon, if at sea or on the coast, or on land, the exact length of the shadow of a vertical object of determinate length on an horizontal level, at a precise moment of time (not too near noon) &c.

MEDICAL FUND.—The whole service are so deeply interested in its progress that we have pleasure in communicating that about fifty new subscribers have sent in their names. NOT ONE NAME has been withdrawn.

THE MEMORIAL TO THE COURT OF DIRECTORS FOR THE BOON.—A considerable number of signatures have been received to this paper, and we hope to have it dispatched during the current month.

INVALIDING ARTILLERY MEN FOR THE LOSS OF THE LEFT THUMB.—A correspondent of the Delhi Gazette differs in opinion with the able writer in our journal Mr. Baddeley, who maintains that the artillery man, mutilated by the loss of the left thumb, can serve the vent of a gun by substituting a pad for the thumb of the ventsman. The difference of opinion expressed by the writer in the Delhi Gazette is grounded on the following reasons.

1st.—"Driving a fuze," during which operation it is absolutely necessary to turn the drift after each blow of the mallet.

2dly.—"Cutting the said fuze at the fuze beneh," where, unless the operation be left-handed, the thumb and fingers of his left hand must act the part of a vice to secure the fuze from slipping under the action of a clumsy and generally blunt fuze knife.

3rdly.—"The fuze when driven and pared down to the size of the fuze-hole still requires "setting," an operation which requires the use of all a man's thumbs and fingers.

Now, the preparation of a shell for service being no unimportant part of every artillery man's duty, and the man without a thumb being unable to assist in such a duty, the same man being also unequal to the performance of the most responsible part at a gun, viz. "the serving of the vent," I think that there are few of my friends who would not prefer the assistance of an ordi- Jack lascar to that of a European so mutilated; and were men not invalided for the loss of so important a member, we should frequently see a company of artillery, four or five men unequal to the ordinary duties of their profession, for the loss of a thumb is no uncommon occurrence amongst artillery men."

On the very grounds that the occurrence is so frequent among artillery men we think Mr. Baddeley's mechanical substitute should be tried before it is rejected. We have

always been of opinion that for the loss of a thumb an artillery man should not be invalided, that some mechanical apparatus might supply the office of the thumb. We agree with Mr. Baddeley that the thumb should never be used to serve the vent.

THE SICKNESS AT PALEE, which has been attended with great mortality, has excited considerable apprehension, because the symptoms resemble those of the plague. They are thus described in a letter from Captain Dixon, to Colonel Alves, agent to the Governor General.

"The first symptoms of the disease are fever, prostration of strength, eyes burning, and the whole system aching; tumours are immediately formed in the groin and behind the ears, and in three or four days the sufferer dies; only one or two in a hundred have escaped. It is stated, a similar disease never before visited *Palee*, and, judging from the symptoms, and from the circumstance of a corpse immediately becoming putrid, it would seem to be what is denominated the common plague."

Captain Dixon adds that the inhabitants entertain the idea that the disease was brought with the large Kafilah of Zorawur Mull Seth, which halted several days at Palee on its return from a teeruth, at some place to the south or west of *Goozarat*.

"It first attacked the *Ch'hippees* or *Moosulman* cloth printers, who are said to have lost three hundred individuals. The disease next manifested itself among the *Brahmans;* the *Mahajuns* and *Soucars* were then attacked, when, after a lapse of fifteen days, it is said to have extended to all castes and classes."

"The mortality six days since when the informants left *Palee* was estimated at between fifty and sixty lives daily. The sickness seems to be strictly confined to the town of *Palee;* the villages surrounding the place are represented to be in perfect health. Numbers of the inhabitants had fled to various towns in *Marwar*, and *Palee* was in a great measure deserted. The mortality seems to be wholly restricted to the refugees, who, doubtless, had imbibed the disease before leaving *Palee*."

This is satisfactory evidence that the disease is not contagious, and we have little doubt that the great cause of mortality has been the neglect of the sick from the alarm and consternation excited by the flight of the inhabitants. We have written to Captain Dixon, begging further information on the subject, from some of the medical men who may be residing near the spot.

GENERAL ORDERS.

Promotion,—April 1836, Staff Asst. Surgeon Geo. Carr, to be assistant surgeon.

Appointment. Aug. 27, Assistant Surgeon J. G. Vos, to Civil Station Jounpore.

Removal.—Sept. 10, Assistant Surgeon Pons, to join the corps to which he belongs.

Leave of Absence Sept. 5, Surgeon E. T. Harpur, Europe M. C. Sept. 6. J. Lamb, Asst. to 16th instant P. A.

NOTICE TO CORRESPONDENTS.

The following will appear next month.

Practical remarks concerning the habitual use of enemata, by Dr. Jackson, H. M. 6th Foot.

Account of a newly-discovered muscle in the eye, and of the manner in which the canal of Petit is formed, by P. F. H. Baddeley, Esq.

Facts and observations for the foundation of a science entitled Physico-Metaphysical Science, by Mr. Guthrie.

Cases of leprosy treated with iodine, by Dr. R. Stuart.

Our readers will be glad to learn that Mr. Lindesay of Benares has favored us with the result of his clinical practice, and promises to continue to send more cases which have occurred in the native hospital at that city. His present communication will appear in our next.

Mr. Brett's paper in continuation of Sédillot on luxations will also appear.

Plague proved not contagious, by M. Mathiew; a translation from *Le Temps*.

We have received the American Quarterly Medical Journal in exchange. The Boston Medical and Surgical Journals to June in exchange. The American Repository. Case of Noncephale, with copper-plate engravings, and Scientific tracts, by J. Smith. M. D.

We have received the following from Mr. Baddeley. Drawings of a gall gnat.

Explanations of plates of hyoloid muscle.

Description of an ichneumon fly.

Description of a gall insect.

We are happy to say they are in that state of preservation as to enable us to lithograph the whole. Some of the former supply of valuable drawings were destroyed by the rain whilst coming by the dak.

We have just time to acknowledge Mr. Hodgson's valuable communication: it shall appear in the Journal of Science. We are also just favored with Dr. Macdonald's and Dr. MacIntosh's communication and enclosure. We shall take care that all their directions are obeyed. We have also been favored with our friend, Dr. Baker's communication through Messrs. Thacker and Co.

THE INDIA JOURNAL

OF

MEDICAL AND PHYSICAL SCIENCE.

Vol. III. Old Series.] NOVEMBER 1, 1836. [Vol. I. New Series. No. XI.

PRACTICAL REMARKS CONCERNING THE HABITUAL USE OF ENEMATA.

By Dr. Jackson, H. M. 6th Foot.

Sir,—I am induced to commit to paper the following remarks upon this subject, in consequence of the horror and detestation in which such a practice is held by the majority of Britons. It is superfluous to inform the reader that these remarks are only intended to apply to individuals of constipated habit of body, who constitute no small portion of civilized Europeans.

Fortunate is that man, but perhaps not the more healthy, who has no occasion for such artificial means to promote health.

I cannot place the subject in a stronger point of view, than by adducing the following case, in which there is neither the smallest exaggeration nor want of variety. Mr. J. W.———n, in his usual health, goes to stool once in 3 or 4 days : his evacuation consists of a few scybalæ, passed with pain and difficulty.

Previously to his having acquired the habit of using enemata, he was subject to piles, pain in right side, and indigestion ; to relieve these affections, he had recourse to drastic and aperient medicines, by which he greatly injured the tone of the digestive organs. It repeatedly happens that he has no stool for 4 days, and even not the smallest desire to defecate. In such circumstances an injection of 2, 3, or 4 pints of soap and water is self administered, and the consequence invariably is a copious feculent evacuation.

If, in such a case, glystral asistance is not rendered, what happens? the whole of the feculent mass is retained many days longer, the softer parts of it are absorbed, no doubt, to the vitiating of the blood and secretions, and the remainder of it is moulded into hard scybalæ, which come to be dejected, one by one, with considerable pain and difficulty.

It were contrary to experience and observation to suppose that Mr. W.'s is a singular case.

It is to be feared that one-fifth of the civilized portion of the human race is similarly constituted.

Though provision has been made by nature for the lodgment of a considerable quality of feces in the large gut, yet remora, in hot climates particularly, and in temperate also, is so apt to take place in the colon that nature ought to be assisted. Our artificial and sedentary manner of living causes a much longer retention of feculent matter than nature ever intended. It is well known that feces lurk in the alimentary canal for weeks and months, producing a variety of real and many ideal complaints. To remove these, thousands are in the almost daily habit of swallowing drastic and aperient medicines. Now, in my opinion, the alimentary canal was not made to be nauseated, irritated, inflammed, or ulcerated by such means.

Some individuals, subjects of constipation, fail to procure alvine evacuations by all natural means. In vain, do they change the kind and quantity of their food and drink, and alter the hours of their meals. They are constitutionally costive; when they do happen to have a free alvine evacuation, it is in consequence of some error in diet, or of having caught cold. In such cases, then, what is most advisable? if nothing is done, no doubt, nature will attempt to bring relief by instituting dysentery or colic ! Let the syringe be substituted for the pill box, and all will be right. If a little warm water or a solution of soap be as effectual as a mixture of colocynth, blue pill, calomel, gamboge, and divers other drastic drugs, here is a remedy for constipation, at once cheaper, simpler, safer, and less irritating. Every female, in the least degree subject to constipation, ought to be furnished with a patent syringe and know how to use it. This would prevent a frightful host of dyspeptic, nervous, and hysterical complaints.

How very frequently, in India, does it happen that torpidity of the colon is treated for liver disease and indigestion ! How often in such cases are the superior portions of the alimentary canal irritated and inflammed by purgatives ! How often the whole

system shaken by mercury, when a simple enema would bring speedy relief. But on the other hand, when biliary and intestinal derangement does exist, an enema is a poor substitute for cathartic medicines; and, in such cases, too great confidence in the use of the former may lead to the dangerous omission of more appropriate means.

I am disposed to believe that the prejudices of the English against enemata are dying away. Not long ago I witnessed an epidemic remittent fever, in which it was dangerous to purge, and often inexpedient to open the bowels by aperients. Enemata were substituted, and my patients often requested to have an injection to open their bowels.

Most of the causes, whether predisposing or exciting, of constipation are unavoidable: such are pregnancy, a sedentary occupation, depressing and exciting passions of the mind, the use of improper food and adulterated liquors, the wearing of flannel, &c. As a proximate cause I might add malformation or misplacement of the large intestine—weakness of its muscular bands, also a deficiency of biliary secretion.

Other occasional, but avoidable causes are, too much sleep, two long indulgence in bed, too strong tea or coffee, warm baths, drinking too much at meals, the too frequent use of slops, eating too large a quantity at a time, the want of sexual intercourse, and the use or abuse of cathartic medicines.

From these it would appear that the remedy, here advocated, for constipation, is much easier than the prevention, and decidedly more practicable than avoiding the causes of it.

With regard to the capaciousness of the large intestine; this may be large enough in some individuals to contain lbs. 20 or even more. In a middle sized woman, æt. 26, who died of fever, I carefully separated the large gut from its natural connections, removing it from the insertion of the ilium to within 2 inches of the anus. I found that it contained lbs. 10 ozs. 5 of water without threatening to burst at any part. Considering, then, the extent and capacity of the organ of defecation, it appears to me that, instead of one, three ponnds of fluid ought to be reckoned a moderate injection, and that double that quantity may often be necessary. I am aware that 10 and 15 lbs. have heen injected in tetanus, &c., but in such cases the ilio-colonic valve is forced.

The reason, why glysters are so often inefficient in their operation, is obvious. Besides the deficiency in volume, it is often improperly administered by subordinate medical assistants; the patient in an irritable state resists, the injector yields to him, and not one-half the liquid passes up the intestine; or, if pushed up, it is immediately dejected per se, there not being enough of liquid to overcome the spasm. The quantity to be injected should vary from one to four pounds, keeping in mind the constitution, sex, and age of the patient, strength and nature of the enema.

With regard to the quality of the injection, simple water often answers the purpose as well as a solution of soap; but the former more frequently fails to produce an evacuation than the latter.

Sea water is too potent, but answers the purpose feinte d'autros. Cold water often fails, when a similar quantity of hot will produce the desired effect. When too potent a liquid is used, it gripes and acts more speedily.

A few syringesful of air, thrown up with or after the fluid, are sometimes beneficial; but an injection of atmospheric gas alone will not open the bowels. An injection of cathartic materials produces a considerable degree of nausea and irritability.

After administering a domestic lavement, the first call to defecate ought to be resisted; but if this is not experienced until 10 or 15 minutes after the use of the syringe, it is not necessary to do so. When the accumulation of feces is great, the best plan is to inject a small quantity first, so as to empty the lower portion of the gut; then to inject a large quantity so as to reach the transverse and ascending colon. This is not always easily accomplished; for it sometimes happens that, with a very confined state of the bowels, there takes place considerable bearing down and spasmodic action of the rectum, in which circumstances there is great difficulty in introducing the fluid to be injected. However, by perseverance and patience to inject steadily, this may be overcome. An enema may be repeatedly and suddenly returned by itself; but if 3 or 4 pounds of liquid are firmly and quickly pumped up, the spasm is overcome, and a copious evacuation rewards the trouble. In ordinary circumstances an enema ought to be injected slowly at first; for, if suddenly injected, it may be either snddenly returned or absorbed. When the injection is returned too soon, a very small dejection follows: on the other hand, if it is retained too long, the greatest part of it may be absorbed and pass off by the kidneys. That there is a sudden communication, by means of the absorbents and absorbent veins, between the alimentary canal and kidneys, I have no doubt. I have known three and four pounds of fluid injected to have been retained in toto, and, in from 30 to 50 minutes afterward, a copious flow of urine to take place.

While administering an injection, there is often perceived a sound and a feeling as if the liquid had entered the ascending colon; in which case it generally happens that a primary and a secondary operation follows; or, in other words, there is a dejection in two distinct portions, observing an interval of several minutes between each.

After the operation of a lavement, some experience a pleasant thrilling sensation through the sacral extremities, others have a nervous irritable feeling, while a third has a saltish taste in the mouth.

It occasionally happens that, when too voluminous and strong an injection has been thrown up, a feculent mass of less consistence than usual is brought away, and for 12 hours afterwards, the person does not feel in his usual state of health. Here it would appear as if the process of digestion had not been finished in the last portion of the evacuation. Nature has been disturbed in her final efforts to extract nutriment from the mass: the function of the large intestine has been disturbed.

When there exists the desire without the power to defecate; when there is uneasiness in the right side of the abdomen, accompanied by constipation, then a lavement will always bring relief: under such circumstances it is a remedy particularly appropriate, and will generally render the taking of a cathartic quite unnecessary.

Touching the best time of the day for washing out the lower gut, I can see no objection to its being done at any period of the 4 and 20 hours; but the best time is an hour after breakfast: enematizing on an empty stomach had better be avoided. But this is not of much consequence. The bowel may be unloaded before going to bed, or the first thing in the morning. Indeed it has this great advantage over aperient medicines, that it can be done at any time of the day and its operation depended upon, while pills are often uncertain in their operation.

How often a lavement may be required, depends upon the habit of the individual. If a person in his best health is in the habit of going to stool once a day, and continues to do so, but is very constipated, he will require the daily use of a lavement. Again, if he is in the habit of evaculating only once in 3 days, it is advisable, in such a case, not attempt to produce an evacuation daily: an enema every third day will be sufficient.

With regard to the disadvantages and evils resulting from the habitual use of enemata, I would first observe, that this, like other hygeinic means, may be abused. Lavements ought not to be used indiscriminately; a person may defecate only once in two or three days, and yet not require the use of glysters.

It may be objected, that it is an artificial and unnatural custom, which cannot be practised in all circumstances, or on all occasions.

Is this the only habit, in which man is artificial and unnatural? If so, there might be some grounds for the first part of the objection.

Without a syringe and water, or some such means, it would be difficult of execution; but with these it is very practicable in almost all circumstances.

It may not be very easily managed on horseback, nor would it be a very decorous exhibition in a ball-room; but in almost all other situations it is very easily accomplished.

Does the frequent introduction of the pipe irritate the anus and rectum, producing disease in those parts.

Although the pipe is used without oil, it never injures those parts, when introduced with common care.

Does the frequent injecting of such large quantities of warm fluid produce an unnatural distention of the gut, and subsequent relaxation of its coats?

If this were the case, lavements must aggravate the evil they are intended to remedy: from considerable experience I am convinced that the habitual use of injections does not aggravate constipation.

I have never been able to discover that this habit has been the precursor of dysentery, diarrhœa, colic, or stricture in any portion of the canal.

Perhaps the recto-colonic sphincter may be weakened by the use of enemata. The medical profession is largely indebted to O'Beirne of Dublin, for his original and ingenious treatise on the physiology and pathology of the large intestine. I regret that I have seen only a review of the work. In administering an injection, there is certainly, at first, a resistance to the ascent of the fluid in the rectum: after a few ounces have been pushed up, the superior sphincter is overcome, and the remainder is injected with comparative facility.

Some may raise their objections to the practice here advocated, upon the difficulty and trouble of self administering. Four pints of fluid may be injected in from one to three minutes, the syringe wiped clean and put past in two more. A newspaper or magazine may then be taken to the privy, in which there should be water and a towel: in 15 or 20 minutes a copious stool follows. The whole business is over in half an hour; it may sometimes occupy an hour, but surely this is no objection.

If the English deprecate the use of glysters, they have great faith in physic. It seems to me that there often exists, both on the part of the patient and medico, an over anxiety to keep the bowels open; neither seems satisfied unless there is a daily evacuation at least, whether it is during the progress of a serious disease, or during a state of convalescence from such. Captain———had been the subject of serious remittent fever, for which he was purged and salivated. The disease had ameliorated into intermittent, when he became a patient of mine. It was arrested by quinine. Two days afterwards the disease returned, exhibiting pneumonic and dysenteric symptoms of considerable severity: a large dose of Dover's powder, combined with hyoscyamus, was given. This gave him great relief, but constipated his bowels; he had no stool until the 6th day after the opiate. Every morning, upon enquiry into the state of his bowels, the answer was, no stool; but at the same time he had no pain, uneasiness, nor desire to go to stool, otherwise it was my intention to have given him an enema; but my patience and dread of the danger of purging in his case were rewarded by a copious natural evacuation after 6 days' constipation.

A copious enema of soap and water not only produces an alvine evacuation, but also acts as a diaphoretic: when administered hot, it acts as an instantaneous sudorific, and it appears to me astonishing that it is not more frequently had recourse to for this purpose.

An injection of hot weak grog produces, in a few minutes, an exciting effect upon the cerebrum, without a corresponding effect in the epigastric region. Brandy ℥ 3 and water ℥ 16 produced this effect. It was injected into the large gut when nearly empty, was retained for upwards of an hour, and then ℥ 4 were dejected per se.

It yet remains to be ascertained by future experimenters, in what cases the administration per rectum of other medicines, besides purgatives and opiate, may be applicable. It appears to me that sudorifics, diuretics, diluents, and diffusible stimuli might often be advantageously administered in this way.

Colaba Bks. Bombay, 5th August, 1836.

ACCOUNT OF A NEWLY DISCOVERED MUSCLE IN THE EYE, AND OF THE MANNER IN WHICH THE CANAL OF PETIT IS FORMED.

By P. H. F. Baddeley, Esq.

When we detach the ciliary processes and choroid from the hyaloid tunic, we perceive a striated or plaited circle (zonula ciliaris. zon: zinnic or membrana coronæ ciliaris) on the anterior part of it, exactly corresponding to the elevations and depressions of the ciliary plicæ, and in the natural state intimately attached to them: throughout this is the site of a thin plate of muscular fibres, which, from its connexion with this tunic, I shall henceforth denominate, *hyaloid muscle*.

The fibres of this muscle run in a radiated direction from the circumference of the lens (on the anterior capsule of which they are inserted in bundles), as far back as the posterior margin of the ciliary processes, where they terminate abruptly.

Its more immediate connexions are, externally to a dense medullary layer, derived from the retina, which, with a coat of pigmentum nigrum, separates it from the nervous expansion derived from the annulus albus. This medullary layer adheres so intimately to the muscular expanse, that considerable difficulty is experienced in separating it entirely from it, and requires to be scraped and brushed for some time before the fibres come distinctly into view. Internally, it is closely adherent to the membrane of the vitreous humour, which follows it to within 2 or 3 lines of the margin of the lens, when it *splits*, and the external lamina proceeding onwards, becomes, when it arrives at that body, intimately attached to its capsule, and *continuing* backwards, behind it, forms, with the internal layer which again *joins it*, the triangular *canal of petit:* the double membrane then passes round the posterior segment, loosely attached to its capsule, and joins the one upon the opposite side.

This circular canal follows the alternate elevations and depressions of the hyaloid muscle, corresponding to the ciliary plicæ, and thus accounts for the peculiar sacculated appearance exhibited when the former is inflated.

In order to observe the intimate structure of this muscle, it is necessary (after having rendered it in some measure opaque, by means of a rect. I will hereafter mention,) to detach a portion of it, together with the capsule of the lens; and, having carefully scraped off the medullary layer, place it under a powerful microscope. A thin plate of cylindrical parallel fibres will then be seen, homogeneous, and entirely divested of globules, dividing, subdividing, again and again, to inconceivable minuteness.

The smallest fibre not being larger than the 90th of a globule of blood in diameter, at the lowest computation there will be five hundred millions of them visible to the assisted eye, in this muscular expanse, the whole of which weighs but ½ qr. and is the

Fig 1.

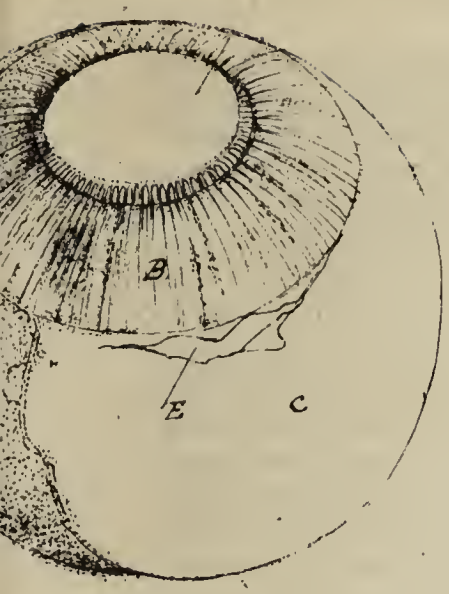
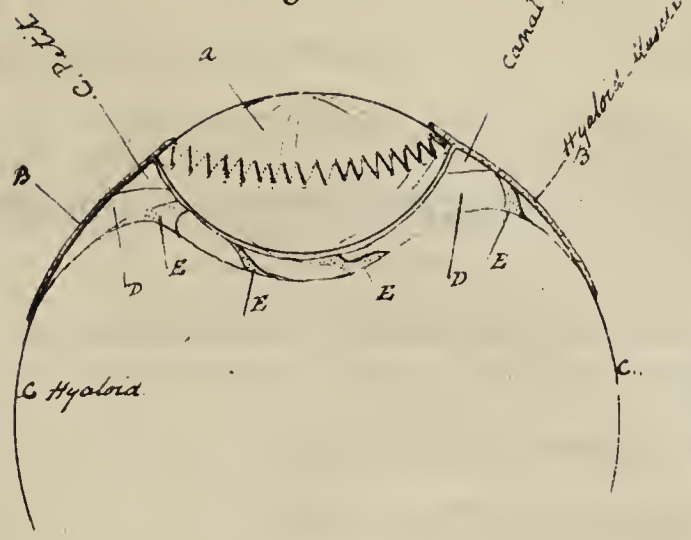


Fig 5.



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EXPLANATION OF FIGURES.

Fig. 1.—Represents the situation of the hyaloid muscle.

A.—Lens.

B.—Zonula ciliaris or hyaloid muscle.

C.—Membrane of the vitreous humour.

D.—Retina.

E.—Internal hyaloid tunic.

Fig. 2.—A portion of hyaloid muscle attached to the anterior capsule of the lens.

A.—Anterior capsule of the lens.

B.—Part corresponding with the elevations and depressions of the ciliary plicæ.

C.—Fibres.

D.—Medullary matter.

E.—Pigmentum nigrum.

F.—Posterior capsule of lens.

Fig. 3.—A portion of the muscle, from which the medullary matter has been removed.

A.—Anterior capsule.

C.—Fibres.

Fig. 4.—A few of the fibres more magnified.

Fig. 5.—Represents the manner in which the canal of petit is formed.

A.—Lens.

B.—Hyaloid muscle.

C.—Hyaloid tunic.

D.—A cell in the vitreous humour.

E.—Bands of membrane.

C. P.—Canal of petit.

fourteen-millionth part of the whole body. The above estimate is, however, considerably below the mark, and, were it much increased, would perhaps be nearer the truth: this gives an insight into the wonderful minuteness of the elementary particles of organized animal substance.

The character of these fibres so exactly correspond, in appearance and arrangement, with a similar structure observable in common muscle and in the iris of the gigantic crane, that, reasoning from analogy, I have little hesitation in concluding that they are of the same texture, and are endued with contractility as well as elasticity.

At present I have observed these fibres distinctly, only in the eye of the horse, deer, and camel, but conclude that they exist wherever the ciliary processes are developed; the perfect transparency of the coat, however, under ordinary circumstances, render it next to impossible to detect this structure, without the parts having previously undergone some preparation.

In the present limited state of my observations, it would be premature to speak decidedly on the use and modus operandi of this muscle; but I beg to offer the following remarks, which may tend to elucidate my theory of its action, and give others an opportunity of confirming or refuting it, according as the arguments may appear to be erroneous or otherwise.

1st.—The hyaloid muscle will, from its insertion and encroachment upon the anterior segment of the crystalline, tend to retain that body in situ, and prevent its displacement forwards.

2nd.—It will also co-operate with the lens in the adaptation of the eye to distinct vision at different distances, and will, at the same time, from its intimate connexion with the ciliary processes, regulate the motions of the iris.

When the eye is suited to close inspection, the lens will, by diminishing its greater circumference, by an action proper to itself, at the same time, cause a simultaneous sphincter-like contraction, of the circular insertion of the hyaloid muscle, which, by its instrumentality, will diminish the size of the pupil.

In the opposite state of the eye, or that adapted to distant vision, this muscle will act as an antagonist to the lens, and tend to bring it back to its natural or relaxed state, causing at the same time, by the enlargement of its own circle of insertion, independently of the action of light, an expansion of the pupil. These two conditions of the eye may be considered as extreme or opposite; but in the several intermediate states, the pupil will be more or less influenced by light, and its motions regulated entirely by the contraction or relaxation of this hyaloid muscle, which, by its immediate connexion with the nervous expansion, derived from the annulus albus or ciliary ligament, whose appropriate stimulus is supposed to be light, may afford a strong presumption that the same agent influences both, and will thus account for the instantaneous effect light has, under certain circumstances, in diminishing the size of the pupil.

It is probable that, in all animals which have an *active* iris, contractile or elastic fibres exist in it, which, though chiefly disposed in a radiated direction, will be found to possess a certain complexity of arrangement, combining the power of closing as a sphincter and diminishing the pupil, or contracting and expanding it, according to the state of the hyaloid muscle, which is its *regulator*.

We then see that a total relaxation, or paralysis of the latter muscle, will allow of the contraction of the radiated fibres of the iris, and by that means enlarge the diameter of the pupil.

The different distributions of the moto-sensitive nerves, should not be lost sight of; as, by attending to this, an explanation may be attempted of an apparently contradictory state of the eye, when under the influence of narcotic agents, as belladonna.

In this case, the iris contracts (an active state, by virtue of its own elasticity, perhaps), when we might have supposed it would be totally relaxed and paralysed; but, considering the almost direct manner in which the ciliary nerves pass at once to the iris, and anastomose with each other, it is easy to conceive, that, while the nervous supply to the hyaloid muscle, derived from a ganglionic source is paralysed, a similar effect will not be produced on that supplying the iris, and consequently it will not lose its power of acting.

However independent of this, a total relaxation of the hyaloid muscle will, at all times, cause a corresponding dilatation of the pupil; for the iris, according to my theory, cannot *diminish* the diameter of it (the pupil), *without* the consent or co-operation of this muscle.

I should therefore conclude that the iris is for the most part *passive*, and does *not* assist in accommodating the eye to distinct vision at different distances, and that its motion is the *effect*, not the cause of this change, and acts in obedience to another power.

For rendering the membranes of the eye opaque, the following receipt will be found useful.

Having removed the cornea and sclerotic, steep the eye for a month or six weeks in spirits of wine; then take it out and place it for 2 or 3 days in a solution of chloride of lime and a few grs. of sulphas ferri, when the transparent membranes will have become in a great measure opaque, and may be more easily distinguished and dissected under water.

LEPER ASYLUM, CALCUTTA.
CASES OF LEPROSY,
TREATED WITH
IODINE,

By R. Stuart, Esq. M. D.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—I regret to inform you that *Edoo*, the first of the four cases, which I had the pleasure to send you from the Leper Asylum, inserted in your Journal for July last, died on the 11th July, of a diarrhœa, with which he was attacked, a few days after my report was sent to you, and which, in spite of all my efforts, continued till the 11th July, when he expired. He was also extensively affected with worms (ascaris lumbricoides). He passed several by the mouth, and a great number at stool. As there was no post-mortem examination, I cannot positively say; but I am inclined to think, that the diarrhœa was kept up from the irritation, produced by the worms.

Case II.

GUYORAM.—On the 19th May last, sores broke out on all the toes, and from these there was a profuse watery discharge; the slight degree of swelling which existed, when I sent his report to you, entirely disappeared. He became so weak as not only to be unable to leave his bed, but I even despaired of his life. Owing to his inability to wash his body, it became excessively dirty, his fingers swelled, and sores broke out upon them, as also on the ears, which a second time became thickly covered with incrustations; and, in short, with the exception of the nodes, he appeared to be worse than when his case was first taken down. He continued several weeks in this state, during which time the iodine was stopped and his strength kept up with such nourishing articles of food as we could procure. On his shewing symptoms of recovery, the iodine was resumed, and I am happy in having it in my power now to state, that his general health is greatly improved. All the nodes have entirely disappeared, perfect sensation has returned to every part of the body; the sores have healed up with the exception of a trifling one on the left ear, and another trifling one on the left heel, and the body is now free from incrustations. The left ear, the fingers, the legs, and toes, however, are still slightly swelled, and the colour of the trunk and extremities is somewhat darker than natural.

Case III.

KASSY.—Since last report the body has become considerably cleaner, his appearance has greatly improved, and he is now much stouter and stronger. The ankles are almost natural in size and appearance. The remnants of the nodes, which existed on the legs at last report, have ulcerated, and sores from time to time still break out on the fingers, toes, and feet; there has been no other change.

Case IV.

SARAH FREDERICK Obtained leave of absence on the 10th May, to see some friends at Dum-Dum, promising to be back in the course of a day or two, but did not return till the 20th June: says that after she had been fifteen days away, all the benumbed portions, to which sensation had been restored, again became insensible; the colour, however, had continued to improve. On the 27th June, when the benumbed portions were pinched with much force, she felt a little pain: sensation gradually went on increasing till the 15th July, when it was perfectly restored.

September 23d, 1836.

HOSPITAL PRACTICE, BENARES.

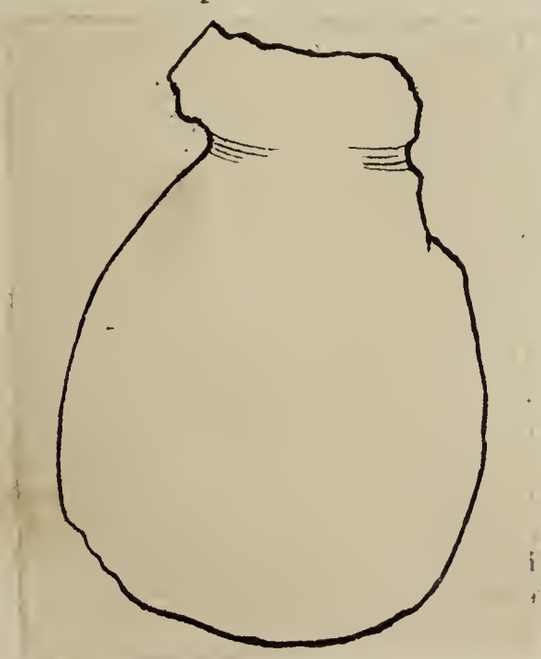
By A. K. Lindesay, Esq.

To the Editor of the India Journal of Medical and Physical Science.

Sir,—The great interest that attaches to the following case, out of several in which it has lately been necessary to perform lithotomy, induces me to send notes of it for publication in your journal.

Ramlal, 10 years of age, was cut by my predecessor, Mr. Burnard, on the 28th of May 1833, and a stone weighing 20z. extracted; again on the 19th of July 1835, he was freed of a *second* calculus, by the same surgeon, weighing 11 drs. & 15 grs. He was brought to me in the hot weather: a sound instantly struck a stone, a *third* stone! as his sufferings were moderate, and the weather excessively hot, I recommended temporizing till the rains.

August 16th.—Came three days ago to undergo the operation: on examining by the rectum, the stone seemed to fill the whole of the fore-part of the pelvis, and was felt as soon as the finger had passed the sphincter. I tried to balance it on the finger, but it would not move; urine white and ammoniacal, and sufferings now great, but health tolerably good. Gave him a dose of castor oil, and this morning proceeded to operate; tried to introduce the staff repeatedly before it could be got into the bladder. On being kept close to the arch of the pubis, however, it passed on; cut through the cicatrix towards the prostate; before reaching which, or the staff, the knife struck the stone; threw away the staff, and, guided by the left fore-finger, completed the incisions on the face of the stone, gradually freeing the presenting portion by dividing several ligamentous bands. At last a thick cord-like bridle was touched, on which the urine flowed, and the stone was slightly moveable; there was however no possibility of introducing forceps, but a scoop was carried between the calculus and the pubis, and, with a finer in the rectum, by a little steady exertion of force, the stone was extracted. As the stone was friable on the surface, a finger was passed into the bladder: the mucous coat was found studded with small sharp crystals (as I remarked at the time "like joiners' sand-paper"). With the finger to displace the fragments, 8 enema syringesful of tepid water were thrown up: before the whole came away, still more water was injected that no nucleus might remain, and the boy had 8 drops of laudanum and was put to bed: the stone pyriform, with a contracted neck, weighed 13 drs. 10 grs. I sketch an outline of the natural dimensions. The neck of the stone I presume was grasped by the neck of the bladder, and the nipple-like portion was no doubt in the prostatic and membranous portion of the urethra.



Noon.—Has slept; complains much of pain from a piece of elastic catheter, which was kept in the bladder through the wound, therefore, and as the urine trickled by the sides of the catheter, it was withdrawn; as the former operations had not interrupted the calculous diathesis: as the urine and calculus were fœtid and ammoniacal, and as the crystals dissolved with effervescence in acids, a course of opium and acids was commenced immediately; he had an attack of catarrhal ophthalmia, and about the 9th day intermittent fever: the wound however went on well. On the 19th day, as he fretted much to go home, as his parents were attentive, as the wound looked well, and nearly all the urine came by the urethra, and moreover as a change might prove useful in checking a slight diarrhœa which teazed him, he was discharged, and (notwithstanding the looseness) in good health and spirits.

I have to thank you and your correspondent, Mr. Brett, for the sketch of Dupuytren's improved apparatus for lachrymal fistula. I immediately had it made up, and have already used it in three cases with the best effects: in two of these cases the solid stilette had been worn for months with very partial benefit; whereas with the canula the relief was immediate, the wound soon healing over it.

Still another digression—Is the tincture of iodine sent to out-stations stronger than that dispensed in Calcutta?* On the first appearance of Mr. Martin's paper I used the injection in hydrocele, of the strength advised by him: the subsequent inflammation was excessive; I weakened it in every following case, and now I never use more than 5 drops in one syringeful of water for a single hydrocele, and 7 drops (with two syringes-ful) in double hydrocele; the remedy never fails, though even with these small proportions the inflammation is sometimes more than sufficient for any useful end: without looking over books, I may safely say that I have used it in at least thirty cases.

In a case of stone lately, where the calculus seemed small, I twice tried L'Etrange's calculo-fractor, but failed in seizing the stone. I operated in the old way six days ago, the stone was not small: it weighed upwards of 12 drs. but very flat, which may be the reason of the deception (I could not gain any information of the size by the rectum;). The man's life is in some danger from an attack of diarrhœa, which is general at this unfavorable season, yet I have hopes of his recovery.

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* We believe it is of the same strength.—Ed.

OF THE DETERMINATION OF THE DIFFERENT KINDS OF SCAPULO-HUMERAL DISLOCATIONS, THEIR PATHOLOGICAL ANATOMY, AND THEIR TREATMENT: BY DR. SEDILLOT, SURGEON AND DEMONSTRATOR OF ANATOMY.

Translated from the Journal des Connaissances Médico-Chirurgicales, with remarks,

By F. H. Brett, Esq.

(Continued from page 511.)

To intersperse the translation of M. Sédillot's memoir with remarks would, we find, interrupt the thread of his argument; we will therefore refrain, premising the following.

When it is considered how many thousands of unfortunate living instances of the opprobria of surgery are witnessed in the east, it is high time that the true principles of science should be more widely disseminated amongst the natives themselves. There are the most shocking instances of deformity from neglected luxations to be witnessed; of the most horrible distortions of the extremities from neglected burns, produced by subsequent extensive cicatrices; deformities of the hands and feet and spine, the result of mere irregular muscular contractions in people who have long been bedridden, and which are often remediable by patient perseverance. How numerous are the instances of native surgeons making deep incisions into fungus hematodes! We have known them make similiar incisions into a cancerous tumour of the eye-ball, and have also reason to suppose that many common encysted tumours which they have cut into, but which they do not know how to dissect out, have become malignant through such procedure. They have temerity enough to do this, though not sufficient confidence to tie a wounded or aneurismal artery or remove the sequestra of necrosis. The wrinching out of the stone, the mutilation of the eye in cataract, and so forth, are of daily occurrence. In strangulated hernia, harelip, &c. they do nothing. But for the lost nose they do substitute an apology for one. Lepers they will not go near, and the innumerable list of medical diseases are equally opprobria to the art, notwithstanding their numerous manuscripts of reference from Arabian and Egyptian authors.

Acute inflammation, leading to the early formation of adventitious deposits and irremediable adhesions, is not so prone to follow confusion in the temperate system of the asiatic, and consequently we have occasional opportunities of reducing dislocations of considerable standing. We effected a reduction of the hip-joint in a rather muscular subject after expiration of three months, and we have occasionally reduced dislocations of the shoulder of similar long standing.

2nd. Observation.—*Luxation of the left shoulder, of* 21 *years' duration.*—I am indebted for this interesting case to M. Ruff, interne of La Pitié, under professor Velpeau. Often have I seen the patient who suffered under this luxation, and he has frequently related to me the particulars respecting the accident. He experienced a fall twenty years previous on the "place de l' Estrapade" at Paris, and dislocated his arm. A bone-setter pretended, after using some extension, to have cured him, but the natural movements of the limb were not restored, and on his ultimately consulting a surgeon, the latter detected the dislocation as still existing, and advised the limb being kept in the state in which he found it, and not to endanger, by useless efforts, in a dislocation of such standing (about a month or six weeks), the little mobility which he might recover, and perhaps his life.

The patient followed this advice, and the arm very gradually recovered its mobility to a certain extent, although it was not so strong or stout as that of the opposite side; it was still somewhat muscular however. The deltoid fulness had not entirely disappeared, but, on carrying the hand over it, the extremity of the acromion could be felt and the fingers sunk under this apophysis. The head of the humerus was situated under the coracoid apophysis. The arm, measured from the acromion to the olecranon, was of the same length as the right (a circumstance otherwise inexplicable, were it not from a knowledge of the fact that in old dislocations, the bones waste, both longitudinally and in their circumference). The motion of elevation was very limited; and, whilst inclining the head downwards, he could scarcely carry his fingers to the forehead. Rotation was almost entirely lost, and on examining the mechanism of the movements, one perceived them

to belong chiefly to the shoulder-blade. We noticed these renseignments with the more scrupulous attention, as the man had entered the hospital to undergo an amputation of the leg, the result of which might render delay irreparable. The patient died some days after the operation; and, informed of this by M. Ruff, I dissected with him the luxated articulation.

Dissection.—The skin of the scapulo-humeral region presents no trace of cicatrix or any adherence to the subjacent parts. The muscles are full, red, and of symmetrical appearance. On dividing the pectoralis major and dorsalis major, at the distance of three inches from their insertion into the humerus; and the deltoid under the acromion and coracoid process, the cellular tissue of its internal surface is more fibrous than natural, and more intimately united to the head of the humerus. On dividing at equal distances the tendon of the long portion of the biceps, and the coraco-brachialis, which present nothing remarkable, the tendon of the sub-scapularis appears very large, flattened, and smooth upon the head of the humerus, and upon the capsule, from which it can with difficulty be separated. The muscles supra and sub-spinatus and rhomboideus minor, are confounded at their insertion with the fibro-articular tissue, yet still distinguishable. All these muscles are voluminous, without appearance of lesion of any kind, and, separated from the omoplate, they leave the articulation perfectly exposed.

Anterior and external face of the articulation.—Viewed anteriorly, and reduced to its fibro-osseous elements, the shoulder presents no ordinary signs of luxation: the head of the humerus is, indeed, less projecting outwards than in the natural state, and does not reach the edge of the acromion, but is under this apophysis, and is flattened and deformed. It is three inches in breadth, covers all the glenoid, then extends inwards, under the coracoid apophysis, with the inferior face, with which it is in immediate connection. The bicipital groove presents a bony ridge of about four lines in height, under which slides with facility the long tendon of the biceps. The fibrous tissue is in general abundant, and is confounded with the origin of the capsular ligament, which is only of four or five lines in extent, the bones being scarcely separable the one from the other, at the superior part of the articulation.

Internal and anterior face of the articulation. (Vide plate IV.)—This face exhibits, 1st, the fossa subscapularis; 2nd, an osseous border, two inches in length, which forms the limit of the new cavity of the scapula; 3rd, the head of the humerus studded with bony tubercles, and placed under the coracoid apophysis, on the inner side of which it scarcely passes, where it forms a considerable projection, of two inches and three lines in height; 4th, a fibrous capsule, very dense and thick, extending from the scapula to the humerus, which it covers to the extent of an inch above and eighteen lines below; 5th, the tendon of the sub-scapularis muscle, fixed on the inner side of the bicipital groove, to the extent of more than an inch.

Posterior face.—Viewed posteriorly, the articulation presents not less deformity. The fossa sub-spinatus, and the corresponding border of the glenoid cavity, appear natural, the humerus rests upon the latter, and passes it to the extent of six lines below, and two lines behind; it is very flattened, and has the form of a triangular pyramid, an inch in thickness above, and two inches below. The portion of the capsule which unites the two bones is very dense, and allows of very little motion; the long portion of the triceps is inserted very near to it, and sends it prolongations.

It follows, from the whole of this description, that the head of the humerus occupies the whole of the glenoid cavity, the glenoid neck, and a small portion of the fossa subscapularis; that it is greatly flattened, narrow, and small outside, swollen within, and articulated, in an almost immoveable manner to the scapula by a capsule, which only merits this appellation, on its inner part, where it indeed covers a tolerable extent of the head of the humerus; whilst below and outwards, it is inserted almost into the point of the contact of the bones.

Interior of the articulation.—The articulation was opened at its superior part, cutting the tendon of the sub-spinatus, and the capsule, or rather the short and resisting ligament which supplies its place. The incision was prolonged inwards and outwards, and this tissue possessed such strength, that it was impossible to tear it at any point, even by employing the humerus as a lever, and acting on the isolated portions. Having separated the two bones, we perceived the joint to have become of the ginglimoid kind, and the surfaces of connection to be extremely altered from their natural form.

Articular surface of the scapula. (Vide plate V.)—The new articular surface is much larger than natural; and is formed at the expense of the glenoid cavity and of all the neck of this cavity, even as far as below the coracoid apophysis. The result is a complete obliteration of the glenoid cushion, and of the edge which it surmounts. A change of direction, however, or of point, indicates very well its

situation, and separates this new cavity into two portions; the one the external, original, and natural cavity, still a little concave, very much lengthened, united, by a smooth surface, a little elevated, to the second or internal, which inclines, towards the fossa subscapularis, where it terminates by an osseous border. This large articular surface is two inches and five lines in height, and an inch and four lines in transverse diameter at its superior third, two lines less at its inferior third. The bony tissue is bare, exhibiting very few traces of cartilage or periosteum.

The intra-articular portion of the biceps is very voluminous; it is inserted into the scapula in a natural manner, and is continued towards the posterior border of the glenoid cavity, with the glenoid cushion, which has acquired a considerable volume, and is ossified to the extent of thirteen lines. A surface of contact exists at the inferior face of the coracoid apophysis.

Articular surface of the humerus. (Vide plate IV)—The head of the humerus is equally altered; instead of a spherical figure, it is greatly hollowed out in its middle, and from above downwards by a deep groove, into two portions; the one external, rather small, irregularly convex, and answering to the ancient glenoid cavity; the other internal, almost plane, very thick, supported on the internal prolongation of the new articular surface of the scapula. The deep groove, which we have noticed, is connected with the smooth angle, which divides in two portions the cavity of reception of the omoplate. The articular surface of the humerus is two inches three lines long, two inches broad, and two inches and nine lines in oblique measurement. The osseous substance is exposed, and the traces of cartilage are scarcely perceptible, upon the points least exposed to friction.

The entire humerus is shorter and smaller than that of the round side, which explains the circumstance of the arm not appearing lengthened during life.

3d. Observation.—In the excellent work of Sir Astley Cooper (1), there is a similar fact recorded, represented as a partial luxation of the humerus. It is here exhibited (vide pl. VI.): *Partial luxation of the head of the humerus, found in a subject brought for dissection to St. Thomas's hospital in* 1817.

Appearances before dissection.—The head of the left arm is situated more forward than in its natural state, and the arm cannot be separated from the side above half way to the horizontal position.

Dissection.—The tendons of the muscles united to the articulation were not torn. The capsular ligament was found fixed to the coracoid process: on dividing this ligament, the head of the humerus was seen, placed under the coracoid apophysis, which formed the superior part of the new cavity. The head of the humerus was carried under the anterior face of the neck of the omoplate, which was excavated, and formed the anterior part of the cavity. The natural spherical form of the head of the humerus was very much altered, and had become oval, the greater diameter being vertical. There still remained a small portion of the ancient glenoid cavity; but its surface was irregular, in consequence of the disappearance of the cartilage. Upon the head of the humerus, and at the bottom of the new cavity, there existed some small cartilaginous depositions. At the superior and posterior part of the articulation, there was a large cartilaginous piece, suspended in the cavity, and only united above, to the synovial, by one or two membranous bands. The long head of the biceps appeared to have been broken, near its insertion to the superior extremity of the glenoid cavity; for at this point the tendon was smaller, and appeared to be of new formation.

It is needless to accumulate further examples of old sub-coracoid luxations; the three preceding will suffice, and are rich in results. We might, at first sight, regard them as indubitable instances of incomplete luxations, since the head of the humerus is found placed directly on the anterior border of the glenoid cavity, occupying this cavity by its external half, whilst the internal rests upon the neck of the omoplate, and on a part of the fossa sub-scapularis (vide pl. VII. and VIII). Such examples are frequent, and are the form of displacement most frequently met with in old dislocations. M. Velpeau, founded on a specimen of this kind, has admitted the existence of incomplete luxations, in orbicular articulations; and Sir A. Cooper has long since professed the same opinion, founded upon the case probably, which I have copied from him, and upon a second, observed on the living subject. I might quote other surgeons who participate in this doctrine, and whose names are an incontestible authority; but if I confine myself to the facts, I do not find any decisive ones; for old incomplete luxations do not prove that the luxation occurred so in the first instance, and we may suppose, I think, with more reason, that it was sub-coracoid.

In recent incomplete luxations, the head of the humerus has no direct contact with the

neck of the omoplate; its only point of support is the anterior half of the glenoid cavity, and the external and somewhat inferior side of the coracoid apophysis. Such a dislocation, met with on the dead subject, would be palpable, and would leave no shadow of a doubt; but it has never been observed: numerous cases only have been found, in which the head of the humerus is in immediate connection with the glenoid cavity, but at the same time with the neck of the scapula, and with a portion of the fossa sub-scapularis. To explain this circumstance, we must admit that a part of the glenoid cavity has been wasted or absorbed, under the influence of the pressure of the humerus, which is thus placed on a level with the fossa sub-scapularis, and has formed new connections with it and with the glenoid neck; but then the pressure having been the same upon the coracoid process, this last ought to have undergone an equally remarkable derangement of form, and be more or less depressed, and converted into an articular surface. But nothing of the kind exists; the three ancient luxations, to which we have referred, appear then very difficult to comprehend, by considering them as having always been incomplete, whilst they are very easy of explanation, on the hypothesis of a primitive sub-coracoid dislocation. Indeed the head of the humerus remains fixed in this last kind of dislocation, under the coracoid apophysis, and upon the internal border of the neck of the scapula. In this situation the head of the bone has too much thickness not to be considerably out of the plain of the glenoid cavity, and it is its projecting portion which gradually becomes in connection with the glenoid surface itself, so as to resemble an incomplete luxation. All the bones, when displaced, have a tendency to produce a new articulation; to effect this, they become mis-shapen, more or less, and moulded one upon the other, in order to extend their contact. Here, the head of the humerus commences by becoming placed in connection with the neck of the scapula, where a cavity is produced; its collar, or groove, corresponds ordinarily with the anterior border of the glenoid cavity, which it thus immediately meets; it becomes excavated to receive it, and in consequence of this disposition, its external side, which remained free, approaches the glenoid surface, advances upon it, and, finally, entirely covers it *(vide 2nd Observation)*. These changes are slow, but time and the movements impressed on the limb favor them; and, when after the lapse of years, we come to inspect on the body the new articulation, we believe in the evidence of an incomplete luxation, and proclaim the possibility of it, as a recent lesion, without taking into consideration the considerable modifications which have had time to take place and to alter completely the form and connection of the parts.

I conclude, from this examination, that science possesses no case of pathological anatomy, which demonstrates the existence of incomplete luxations, whether primitive or recent. Let us now see what is the value of the facts observed upon the living: Sir A Cooper, who has devoted a chapter of his excellent work to the study of partial luxations, has only related one example of such a displacement upon the living.

Unhappily this example is wanting in the necessary details, to remove all doubt; however, I should have admitted it on the authority of so able an observer, if it had not appeared to me evident that Sir Astley Cooper had confounded partial luxation with sub-coracoid, as I shall prove. But we will first quote his observation:

4th Observation. *Partial or incomplete luxation of the humerus.*—"M. Brown, aged 50 years, fell from a chair upon his shoulder. On examination, its natural rotundity had disappeared. A hollow existed under the acromion; the head of the bone projected forwards and inwards against the coracoid apophysis; the arm could be separated from the side, if directed forwards, but it could not be raised directly upwards. Drawing the two arms backwards, I succeeded in making the bone return into its cavity, but the displacement was reproduced immediately I discontinued the extension. This kind of luxation differs from that forwards (subclavicular), in as much as the head of the humerus is placed on the external side of the coracoid apophysis, whilst it is situated at the inner side in the luxation forwards." We perceive that Sir A. Cooper does not admit the sub-coracoid luxation; it does exist however; he must therefore have confounded it, either with the partial luxation, or with the sub-clavicular, and as this latter presents signs which are too characterestic to admit of such a misapprehension, we must conclude that the partial luxation and the sub-coracoid are the same thing in the estimation of the celebrated English surgeon. The following appears to me to be the cause of the error: the superior extremity of the humerus presents two distinct parts; the one spherical, articular, covered with cartilages; the other extra-capsular, surmounted by large and small tuberosities; this, habitually in connection with the glenoid cavity, in the sub-coracoid displacement; whilst the other, or articular portion, is completely out of the glenoid cavity, and reposes on the neck of the scapula. It is not then a partial dislocation,

since the articular surfaces of the two bones have entirely lost all connection with each other ; it is a complete one, with this peculiarity, that the humerus is still resting by its extra-capsular portion upon the anterior border of the extremity of the glenoid cavity ; the projection of the humerus, under the level of the glenoid, has occasioned the confusion, and what proves it still further is, that Sir A Cooper regards the partial dislocation as the most frequent, next to the dislocation downwards; an opinion inadmissible, if it really applied to incomplete luxations, whilst it perfectly applies to the sub-coracoid luxation.

But admitting what appears to me demonstrated, that Sir A Cooper has confounded these two varieties of dislocations, to which of the two ought M. Brown's case to be referred? Had this patient an incomplete, or a sub-coracoid displacement ? The study of the symptoms leaves us somewhat in doubt. The head of the humerus projected forwards and inwards against the coracoid apophysis ; and there was a hollow under the acromion ; the bulge of the shoulder had disappeared. These signs possess nothing positive; the head of the humerus is supported naturally against the coracoid process, and it cannot be displaced, and rest at the same time at the external side of this apophysis, since such is its normal situation. In order that even an incomplete luxation take place, it is requisite that the humerus slide somewhat under the coracoid apophysis. If the head of the bone does not partially abandon its cavity, it forms, in truth, a considerable projection forwards and inwards ; but the bulge of the shoulder does not disappear, it only becomes closer and more anterior ; moreover, there exists no hollow under the acromion, or we meet with the humerus lowered about an inch ; a disposition which does not resemble the deltoid depression which is observed in complete dislocations. The signs, imperfectly indicated by Sir A Cooper, are also far from being pathognomonic, and cannot be brought forward as proofs of the existence of incomplete luxation of the arm. We must therefore wait for further facts ; however, if we do not believe the incomplete displacement of the humerus, as demonstrated, to allow it to take rank in the science, let us suppose it possible or even probable ; we would explain it thus : In a fall or a blow, sidewise and a little backwards, and from above downwards upon the bulge of the shoulder, the arm being applied to the body, the head of the humerus would be carried inwards, forwards, and a little downwards ; the force of the blow might be sufficiently great to detach a portion of the glenoid border, crush the articular cartilage, and the anterior border of the glenoid cavity, and cause the head of the bone to slide somewhat under the coracoid beak, without entirely displacing it. This luxation would be reduced without difficulty ; but the relapses would be frequent by reason of the deformation of the parts and the absence of the glenoid border. The signs of this displacement would be a lengthening of the arm of some lines only, a slight interval of about half an inch between the acromion and the head of the humerus, the projection of the shoulder, would be inwards and forwards, impossibility of the movements of rotation and elevation of the arm ; the consequences of the accident would not be serious, since the capsule would not have been opened *(see plates I. and II.)*.

I have removed, it will be perceived, the most ancient objection to partial luxations. It could not, it was said, be comprehended how the head of the humerus, smooth, polished, spherical, and lubricated with synovia, could remain on the sharp edge of the glenoid cavity ; and supposing even such a displacement possible, the least movement ought to cause the head of the one to fall back into its cavity ; for, neither the muscles, nor the capsule, uninjured, could oppose any resistance or ever produce a relapse. In fact, whatever efforts are made to produce this dislocation on the dead body, we never succeed in rendering it permanent, and we have only to abandon the limb to itself for the reduction immediately to take place. These objections fall to the ground, so soon as we admit the glenoid cavity as deformed, and more or less crushed at its anterior border, or a similar alteration of the head of the humerus ; without which circumstances, we cannot, I imagine, conceive the existence of the incomplete luxation.

In admitting this sort of displacement, as a primitive state, we shall have then two varieties of incomplete luxation : the first as consecutive of sub-coracoid luxations (we have given several examples of this) ; and the second, recent or primitive, such as we have supposed it ; we might further indicate two others ; that which depends on muscular relaxation (incomplete paralysis of the deltoid), the examples of which are not very scarce, and that which follows the reduction of a sub-coracoid luxation, of already long standing, when the head of the humerus, not being conveniently sustained in front, is carried in this manner by gliding somewhat under the coracoid apophysis, and is lowered about half an inch under the acromion, so as to constitute a true incomplete luxation, of which I possess two examples ; a kind of consecutive displacement easy to be conceived by the malformation of the osseous head, alteration of the anterior border of the glenoid cavity, absence of the glenoid edge, &c. &c.

There should exist then four varieties of incomplete luxation of the shoulder: A, the primitive or recent, this would be the most uncommon and we rather only supposed that admitted it; B, that which depends on relaxation of the levator muscles; C, that which is consecutive to the reduction of a sub-coracoid luxation; D, lastly that which results from changes having taken place in the form and situation of the bones, following old and unreduced sub-coracoid displacements, the only variety which is extremely common, and which can be recognized during life. (*Vide Obs.* I. II. III.)

We have thus far only presented examples of old standing sub-coracoid luxations, which touched upon the question of incomplete displacements; we will now study the recent sub-coracoid luxation: the following is an example, published by M. Crampton (1), under the name of *primitive luxation forwards;* but the plate which accompanies it, and the expressions of the author demonstrate clearly that he was treating of a sub-coracoid displacement.

5th Observation.—James Wilson, aged about 30 years, fell into a burning lime pit; he was raised up by cords; but on his reaching the summit of the kiln, he experienced another fall of five feet in height, on the burning limestone. Immediately that he was extricated from this dreadful situation, he was conveyed to the hospital, where he received every possible attention. He had sustained a luxation of the humerus under the pectoralis major, and very extensive wounds and burns.

M. M'Namara reduced the bone by himself, by drawing the arm forwards and downwards, whilst he pushed the head of the bone towards the glenoid cavity. The patient died the same day, and dissection of the shoulder shewed the following lesions. No muscle was ruptured, nor any tendon separated from its insertion into the humerus; a slight effort sufficed to reproduce the dislocation, and on removing the pectoral muscles, the head of the humerus was perceived lodged on the neck of the scapula, at the base of the coracoid apophysis, and extending nearly as far as the first rib; it passed through a rupture of the capsular ligament, under the superior edge of the tendon of the sub-scapular muscle, detaching this muscle from its connections, and pushing its fibres downwards, so as to form a curve which embraced in part the neck of the humerus; the muscles supra and sub-spinatus were extended, but had not experienced any alteration. The cellular tissue covering their tendons was considerably ecchymosed, and marked distinctly their course; on reducing the head of the bone, the opening of the capsule was seen, which had given it passage. This opening was produced by the separation of the capsule from the internal (anterior) edge of the glenoid cavity, from its summit to its lower part; it was bounded above by the tendon of the supra-spinatus, and below by the inferior edge of the tendon of the sub-scapularis. This opening was not more extended than requisite to permit the easy passage of the head of the bone; the inferior portion of the capsule, however, was uninjured. (*See plate* IX.)

This observation confirms the results of experience on the dead subject, and shews the same position of the head of the bone, and the same lesion of the capsule and the muscles. In all the cases, in fact, of Sue, Chopart, Motte, and myself, we have found the capsule torn, some fibres of the sub-scapularis turned inwards, and the muscles supra and sub-spinatus, and rhomboideus minor untouched; they were strongly stretched over the glenoid cavity, from which they were only separated by the capsule, which, remaining entire between its insertions to the posterior edge of the glenoid cavity and the large tuberosity of the humerus, formed constantly their support.

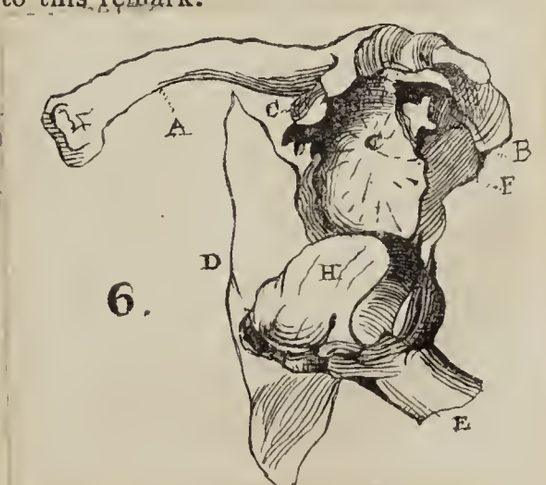
This disposition suffices to prove that the head of the humerus cannot meet them in front of it at the moment of its reduction, for they retract in proportion to the trajet which it makes; but we shall return hereafter to this remark.

(1) *On pathology of dislocations of the os humeri.* Dublin, Med. Journ., 1833.

PLATE VI.

Partial luxation of the humerus forwards. The drawing has been taken from a preparation by M. Patey.

A, Clavicle
B, Acromion
C, Coracoid apophysis
D, Scapula
E, E, Humerus. The head of the bone is a little altered
F, Glenoid cavity
G, New cavity with a polished surface for the head of the humerus. This cavity extends from the edge of the glenoid cavity to the coracoid apophysis



6.

PLATE VII.

Incomplete luxation forwards, viewed anteriorly.

A, Clavicle
B, Scapula and fossa sub-scapularis
C, Base of the spine of the scapula
D, Coracoid apophysis
E, Head of the humerus projecting forwards
F, Humerus

PLATE VIII.

Incomplete luxation forwards, viewed from its outer side.

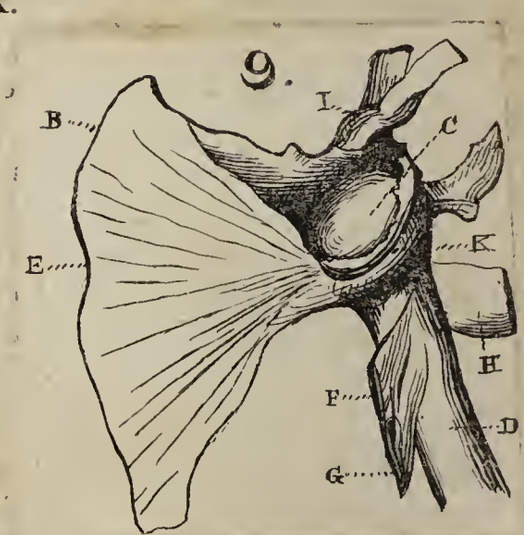
A, Clavicle
B, Scapula, viewed edgewise from its external border
C, Spine of the scapula
D, Acromion
E, Glenoid cavity, in part empty
F, Coracoid apophysis
G, Acromio-coracoid ligament
H, Posterior angle of the scapula

PLATE IX.

Sub-coracoid luxation.

A, Deltoid
B, Scapula
C, Head of the humerus
D, Body of the humerus
E, Sub-scapularis
F, Rhomboideus major
G, Dorsalis major
H, Pectoralis major
I, Coracoid apophysis
K, Torn edge of the capsular ligament

Crampton; Dublin, med. jour.



REVIEW.

A Treatise on the Functional and Structural Changes of the Liver, in the Progress of Disease, and on the Agency of Hepatic Derangement in producing other disorders; with numerous cases, exhibiting the Invasion, Symptoms, Progress, and Treatment of Hepatic Disease in India. *By* W. E. E. Conwell, M. R. I. A. *Surgeon of the Madras Establishment, Docteur en Médecine de la Faculté à Paris, &c.* 8vo. *pp.* 531. Messrs. Thacker & Co., Calcutta.

The liver, the largest of the abdominal viscera, and the most remarkable as regards

its economy and nature, is most subject to morbid alterations of structure, and hence deserving the most serious attention of every practitioner, but especially of those in India, where the liver is more or less deranged in every disease in which the viscera are affected. We hail, therefore, with satisfaction and deep interest every article and work which appears on its functional and structural changes, the more especially when these are the result of professional experience in various spots of our tropical climate. In the work now before us, we find the results of experience acquired in the course of twenty years, during which Mr. Conwell has been almost daily more or less occupied in treating diseases of this organ. In order that his observations might possess greater utility, the author gives no less than 56 pages on the structure and anatomical relations of the liver, which we consider altogether unnecessary, especially as this portion of the work is said to be intended for the inexperienced practitioner, the very person, who is thoroughly taught and most *au fait* in this branch of his profession. All this we shall pass over, being matter thoroughly well known to every medical man in the country. It is our duty, however, to protest against the common system of book-making, which exists; and we take the liberty of intimating, that, if authors will thus attempt to impose upon the time, the patience, and the pockets of their readers, it will be the duty of Reviewers to protect the rights of the public, by giving them the spirit and the worth of the works, and leaving the rubbish on the hands of such writers.

We arrive then at Section 1, Chapter the second, on the causes of hepatic disorders; but, looking through the chapter, we are really at a loss upon which to commence; whether the disorder of the liver, or the disorder of the chapter, for we have before us a most awful entanglement to disentangle; and did we not see something valuable in the mass, we really think, we should cast the knotted thread away. The author means to say that the process of disease in the liver is controlled by two series of circumstances, one tending to the production of congestion or inflammation, the other influencing those states to terminate in suppuration. Here we beg to differ in opinion, inasmuch as there is not a plurality of series of circumstances, but one; for the cause which tends to the production of congestion or inflammation, tends also to suppuration. If the cause can be mitigated in time, there will be a diminution of inflammation, and hence no suppuration: but if the cause be not removed or retarded, then the most inexperienced practitioner knows that it is twenty to one that suppuration will ensue. Dr. Conwell thus describes the—

"First Series. *First*, The great size of the circulatory trunks ramified in the liver, the vena porta being, in circumference, equal to the fore-finger, and the hepatic vein to the thumb, favours the supervention of congestion and inflammation. The hepatic veins are passive tubes, imperfectly filled, and, as well as the portal vessels, are deprived of valves. The great* volume of blood, the greater calibre of the vessels, and the want of valves throughout the portal system, and the veins of this organ, dispose its circulation to very serious disturbances from accidents, particularly falls, blows, and injuries on the head. *Second*, the proximity of the hepatic capillaries to the great vascular trunks; *third*, the great aggregate amount of the hepatic capillaries; *fourth*, the triple capillary connection interposed between the great sanguineous vessels, of which the centre is placed in the acini; and, *fifth*, sundry causes detailed at page 60 have a similar influence."

We differ in the opinion that the great size of the circulating trunks, ramified in the liver, would favor the supervention of congestion. The very reverse would be the result in our opinion; while the danger on the other hand is to be exclusively dreaded from the proximity of the hepatic capillaries to the great vascular trunks and the great aggregate amount of the hepatic capillaries. But we beg our readers' attention to the following.

"The Second Series of circumstances disposes the inflammatory and congestive affections of this viscus to terminate in suppuration. They are, *first*, the prodigious congeries of capillaries contained in its tissue, every part being additionally disposed to suppura-

* Sea sickness most probably arises from the agitation, by contra-impulsion, communicated by a succession of movements, to the large volume of blood in the cerebral sinuses and portal tubes.

tion in the ratio of its being more abundantly supplied with capillaries. *Second*, the great warmth and moisture applied to its surfaces, which have the effect of hastening suppuration. *Third*, the incessant movements to which it is subjected by the respiratory actions and motions of the body. *Fourth*, the stimulant effects of food and drink. *Fifth*, the increased pressure of the liver from fulness of the stomach, or from indigestion producing extrication of gas, and pressure consequent upon gastro-intestinal distension."

The great evil is owing to the over abundant supply of capillaries. We require according to this theory no external cause as a check on the circulating medium through the liver, but warmth and moisture on the surface and respiratory actions and pressure of the liver from the fulness of the stomach or from indigestion, extrication of gas and pressure consequent upon gastro-intestinal distension. Had such direful effects resulted from these causes, then every Hindoo in the country would be affected with the derangement indicated by the author. The Hindoo, however, in contradiction to his views, are less subject to inflammation of the liver than any other class of residents in India.

Dr. Conwell next proceeds to consider other causes of hepatic disease; such, for instance, as external injuries or violence, falls, accidents, especially blows over the hepatic region, and on the head or the back. He considers the liver as more subject to receive injury from external violence, as it is of greater specific gravity, and more firm and resisting, than the surrounding viscera.

"After a fall or a blow, the heart's movements are more or less irregular, or imperfect, and consequently the large veins and tributary vessels, especially those of the liver, become congested. Nevertheless this latter organ continues to receive nearly an undiminished supply of blood for some time, owing to the extensive resources of the hepatic artery and vena porta (§63. 64.). The heart being unable to receive and dispose of the current carried to it by the inferior cava, the liver is exposed to sanguineous congestion and inflammation, followed by suppuration; and those are precisely the consequences that experience proves to follow from such injuries. The lungs are less subject to suffer from similar injury, because the volume of fluid poured into them is less varied and their circulation is more energetic."

We think the inference neither logical nor supported by experience. If the liver was injured by the blow then inflammation might follow, and eventually suppuration; but we really do not see, why, after a fall or a blow, not being directly upon the liver, such evil should necessarily ensue in that organ on account of the irregularity of the heart's movements. According to this mode of reasoning every case of aneurism should be attended with inflammation and suppuration in the liver, although we admit that in gun-shot wounds and other injuries, experience has demonstrated, abcess in the liver: the cause is ascribed, by every experienced regimental surgeon in this country, to a constant state of irritability kept up in the system, in which the liver largely and unceasingly partakes, and hence disease in this viscus frequently terminates in abscess. Admitting with the author that the liver may share in the general irritability induced from injury to other parts of the body, we concur fully in the propriety of the means he would adopt in regard to prevention, viz. bleeding 'after serious falls or accidents' when the immediate shock of the injury has passed off. Among the other causes of hepatic disease our author specifies the intemperate use of vinous, fermented, or alcoholic fluids, which, he thinks, excite the vascular system, and are merely agreeable to the feelings and senses for the moment. He does not, however, exclude their temperate use in cases of debility, exhaustion, or with the view of sustaining the system occasionally under exposure to extraordinary rigour of climate; but he justly maintains that their intemperate or habitual use stimulates the system to an excess that ultimately proves destructive, and therefore cannot be advisable in any case.

"These fluids, besides their deleterious, stimulant, and irritant properties, coagulate the mucous and other juices of the gastro-intestinal surface, constringe the openings of its exhalant and absorbent vessels, and of its glands and follicles, indurate the mucous surface, and deteriorate its functions."

Our author then proceeds to speculate how these beverages injure the liver; but in our opinion the case is so self-evident, that

theoretical disquisition is unnecessary. It is sufficient to know that medical men have universally acknowledged that alcoholic fluids are highly pernicious and unnecessary, and should never be tasted, lest, by the force of habit, they lead (which is most generally the case) to intemperance, and it become irremediable. The following observations are worthy of the readers' attention.

"Drink should only be used to remove thirst, or to promote digestion; but it is frequently abused from habit, especially in tropical climates. Fluid of a temperature a little below or above that of the body, is most efficacious in allaying thirst. Water taken warm, or cold, promotes the urinary discharge, perspiration, and pulmonary exhalation; therefore it is of great benefit in febrile and other morbid states. The quantity of fluid taken with a meal should be in relative proportion to the nature of the food in respect of moisture or dryness. Health should be consulted, not habit or gratification, in the selection of the quality and quantity of fluids employed for common drink. Bilious persons, of a dry fibre, require more cold water with their meals than others. Barley water, linseed tea, rice-water, &c. are alimentary drinks."

The truth of the following accords precisely with our own observations.

"Individuals sometimes begin the morning by a wine glass of undiluted brandy, but this practice is never continued long in India, because a few months suffice to produce hepatic abscess or fatal engorgement."

If the foregoing be true, that which follows is also of the greatest importance, and we entreat the attention of the authorities to the fact, that, inasmuch as economy is concerned by the preservation of the lives of the soldiery, the prevention of crime and the conservation of order and peace, the institution of temperance societies, and the exertions to exclude ardent spirits from canteens, are deserving of their first and highest consideration.

"The health of our European troops in India is very rapidly lost by the pernicious practice of giving them two drams of arrack, (ardent spirit,) daily from the public stores. This leads even the steadiest men into habits of excess. However true it may be that ardent spirit is used by the soldiery in cold climates, without much injury to health, and that it attracts the soldier to the service, and attaches him to it, it must also be admitted that it destroys health, moral character, and respectability, shortens life, and debases the European character in the estimation of the natives. The habitual use of wine is not necessary to the preservation of health in India."

Food of a rich, nutritious quality—rich sauces, condiments, stews, soups, &c. after wading through much unnecessary and abstruse reasoning, are considered objectionable; because, says our author, an excess of fat impedes or deteriorates all the functions of animal and organic life, by lowering the circulation. Fat he considers to operate physically, as in some diseases of the heart. If food is of a stimulating quality, there is risk of hepatitis; and, finally, when food is dressed in a manner agreeable to the palate, it is more likely to be taken to excess. We conceive this kind of reasoning unphilosophical. In the first place all will acknowledge that rich stews and sauces are prejudicial; but it does not follow that they tend to promote excess of fat: certainly not in the instance of the French people; and as to exciting the appetite by agreeable things, the same argument may be pleaded against robust health when the appetite is acute and indulged with impunity. The next cause of hepatic disease, considered by our author, is the influence of long-protracted heat.

"The philosophical experiments of Dr. Edwards*, on the agency of long continued heat and cold on living bodies, enabled him to pronounce, that less of oxygen was absorbed by the lungs in summer than in winter. Atmospheric air expands by acquiring, and contracts on losing caloric, hence the same volume at a higher temperature necessarily contains less of the gas that is necessary to restore our energies, and preserve life. When the supply of oxygen is diminished, the cerebral and nervous energies become enfeebled, and the entire vascular and muscular systems lose some part of their accustomed vigour.

Dr. Bostock (vol. ii. p. 370,) states: 'When the venous blood becomes loaded with inflammable matter which cannot be discharged from the lungs, principally in

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* Nous avions constaté que la faculté de produire de la chaleur chez les animaux à sang chaud dont la constitution est appropriée au climat, était plus grande en hiver qu'en été, et, d'après la relation observée dans d'autres cas entre cette faculté et la consommation de l'air, nous avons pu présumer que, toutes choses égales d'ailleurs, la consommation devait être accrue dans la même saison, avec la faculté de développer la chaleur. Cette vue a été justifiée par le résultat des expériences qu'elle avait suggérées. *Edwards, sur l'Influence des Agens Physiques sur la vie.* Part 3, chap. vi. p. 206.

consequence of the high temperature to which the animal is exposed, and when, from certain causes, one of which appears to be the increase of cutaneous perspiration, this excess of inflammable matter is not employed in the deposition of fat; the liver would appear to be the organ by which it is removed. In ordinary cases, the quantity discharged is small, probably no more than what is sufficient to preserve the liver in its healthy state, and to perform the secondary objects to which the function is subservient; but when, from a conjunction of circumstances, there is an excess of inflammable matter, its accumulation is prevented by an increased discharge of bile.

We learn, from the comparison of these data: *First*, that the lungs do not part with the full quantity of carbonic acid, nor receive their proper supply of oxygen when the temperature is much increased. *Secondly*, that the liver appears to be the organ which remedies this defect. This circumstance renders healthy hepatic action far more necessary in a high than in a low temperature, and perhaps, at the same time, often occasions it to be quite the reverse."

We leave this question in the hands of the chemical physician as far as the theory extends; but we all know that excessive heat is productive of disease, which is more frequently developed by functional change in the liver than in any other organ. Our author adds the following truths.

"The European, after several years' residence, exchanges his clear complexion for a parchment, yellow, a leaden, or a dark pale yellowish colour. His vascular and muscular tissues become flaccid and relaxed, and his animal and mental energies more or less diminished. His general health is impaired, and he continues, particularly as his residence becomes protracted, in a state of valetudinarianism. Medicine is at last constantly necessary to stimulate the functions of the liver, and of the gastro-intestinal tube. This is a very summary, but an exact sketch of those changes which the greatest number suffer from an intertropical residence. Some men retain health under singular disadvantages in India, as in all other parts; but they are here, as elsewhere, comparatively very few. Those least exposed to the inconveniencies and evils of the climate, as might be expected, suffer the least from a residence in it."

Dr. Conwell then notices the difference between the diseases of the aboriginal Indians and those of the European sojourner, and shows the liver to be less affected by disease in the former. He ascribes the difference to temperate living.

"Water is the only drink of the natives of India; but some, from European intercourse, have fallen into the habit of drinking spirituous liquors. Curries are prepared either with animal food, minced, or with fish, or with vegetables, by stewing the material with a little butter, and towards the end of the process adding the curry powder, of which the composition is now generally known in Europe. The curry serves the natives as a sufficient condiment, with the addition of a little salt; and the craving appetite for brandy, gin, wine and water, or for beer, is happily unknown to them; so likewise are the numerous diseases to which those who use these liquors to excess are liable."

The following is a melancholy truth, to which every King's surgeon will bear testimony in this country.

"The natives, employed as servants in European barracks, and some domestics who acquire European vices, are equally, or more, subject to hepatitis, and less able to sustain the depletion requisite for its cure."

The other causes enumerated by our author, are mental emotions, especially anger, fear, anxiety, sorrow, &c. The effects of mind over matter are unquestionable; but we really cannot take our readers through the mystifications of our author's reasoning to come to this end. We are sure they will admit that cerebral, thoracic, abdominal, and hepatic engorgements are kept up and often induced by mental emotions; for the latter, be it observed, also, may be merely symptomatic of the former; and it requires patient observation and great experience to form the diagnosis, on which the patient's recovery so obviously depends. The other cause we come to is want of exercise, especially when combined with free living. This is certainly the most common cause in India. The civilian, and other persons employed much at the desk, are most frequently affected with diseases of the liver, in consequence of the foregoing cause. Encreased expenditure requires to be counterbalanced by an equivalent supply of nourishment, solid and fluid. Therefore our author justly asserts that a greater quantity of food and drink is required by the hard working labourer than by the luxurious idler. Another cause, the most improbable, of hepatitis is violent, long-continued, or repeated courses of mercury, and great and sudden changes of temperature are the last enumerated. In regard to the last all will concur in: but we must conclude; for we have exceeded our limits. We shall resume the review in our next.

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OF
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Calcutta: November 1, 1836.

LITHOTRITY
AT THE HOSPITAL
OF
THE GOVERNOR GENERAL'S BODY GUARD.

The opinion has been rapidly gaining ground, that, when the surgeon considers the structure of the parts, the nature of the disease, and the results furnished by experience, all conspire to establish the superiority of lithotrity, and to place it at an almost immeasurable distance above lithotomy. As we have never regarded lithotrity with distrust or lukewarmness, we were delighted at the opportunity of complying with the request of Mr. Brett to assist him in the performance of the operation on two patients. Mr. Brett's patients had undergone preparatory treatment, such as the daily administration of solutions of sulphate of magnesia or ol. ricini, which was preceded by a large dose of calomel to each. The effect of the sulphate of magnesia was a change in the diathesis, which, aided by mucilaginous drinks, carbonate of soda, and a large dose of laudanum on the morning of the operation, had induced in the patients much calmness and tranquillity.

We strongly recommend this preparation of the system to our professional brethren, as in the management after the operation the patient is secured by it against inflammatory diathesis. One of the patients was about 55 years of age, of the lowest and most indigent class; the other, a youth of some intelligence, was about 18. The elder of the two was first operated on.

OPERATION.

The patient was placed on his back on a table; his shoulders elevated, the pelvis resting on the end of the table, the legs hanging over supported on chairs sufficiently separated from each other to admit of Mr. Brett having room between them. Mr. B· now introduced the catheter, after which we injected as much tepid water into the bladder as could safely be borne. The catheter was now withdrawn, and the calculo-fractor, by L'Estrange, without the vice introduced. After sometime Mr. Brett found the stone, and seized it with the instrument: it measured nearly 2 inches. We applied the vice and found a firm resistent body, which when crushed a sound was communicated. The stone was felt internally; but always escaped; however at each seizure it was found lesser in dimensions, being 1 inch 4 lines, 1 inch 2 lines, and at one time less than an inch. The detritus of the stone adhered firmly in the under beak of the instrument, preventing the upper getting into its place: the detritus was therefore pushed through its appropriate groove. The upper blade was then pressed home, and the instrument without difficulty withdrawn: some fragments of stone came away. The cathether was now introduced, and we injected the bladder well with tepid water which removed much detritus from it. The operation, as thus described, was three times performed. During the whole time the patient suffered greatly, and was at least one hour and a half upon the table. The second patient was then brought. The operation was precisely the same as the foregoing: the youth however bore it patiently and complained little. The stone was grasped several times, and much detritus and fragments removed; the patients were then removed to their beds, counter-irritants and to each one dose of calomel administered, together with warm baths and suppositories to the rectum. Their excellent effect in allaying irritation of the pelvic viscera, especially when brought in contact with the sigmoid flexure by a proper apparatus, is worthy of attention. Ol. ricini was occasionally administered, with constant mucilaginous drinks, combined, with sub-carbonate of soda: fragments and detritus came away; febrile excitement appeared the first day, but disappeared under the above treatment.

Mr. Brett displayed firmness, perseverance, caution, and tact: in seizing the stone no improper force was used. We are happy to learn from him, that he is determined to

give lithototrity the fairest trial in order to ascertain its practicability, and its comparative innocuousness.

DR. O'SHAUGHNESSY'S COURSE OF LECTURES, AND EXAMINATION OF HIS PUPILS.

Our readers, who have read our articles in both our journals, must have observed the great importance in which we hold the study of Chemistry. We must not now occupy space, by repeating here what we have so often urged, that Science, the Arts, Agriculture, and Commerce are indebted to Chemistry for all their incalculable improvements, and hence the source of wealth to every civilized nation. But what does Medicine owe to Chemistry? We may reply that the science, which treats of the specific differences in the nature of bodies and the permanent changes of constitution, to which their mutual actions give rise, is, as has been justly observed, the description of a series of the most splendid efforts ever made by the sagacity of man. Without this unfolding of the chemical mysteries of nature, Medicine would be barren indeed. We accepted with delight, therefore, Dr. O'Shaughnessy's invitation to attend his course of lectures, which, we believe, we have hitherto attended without neglecting one. We shall now introduce our readers to the lecture room. The following are from notes taken on the occasion, and may be considered an index to the late course.

Dr. O'Shaughnessy introduced his Lectures by glancing at the primary truths of Natural Philosophy as to the general properties of matter, stating that matter was composed of *indestructible atoms*, held in contact by some or all of the various kinds of attractions, viz. the attraction of gravitation and cohesion, and magnetic and chemical attraction. He described matter as being possessed of general and secondary properties,—general, as common to all kinds of matter, such as extension, impenetrability, &c. and secondary, as form, color, taste, smell, mobility, divisibility, weight, and porosity. He then considered the nature of capillary attraction, the laws of endosmose and exosmose, and proceeded more freely to explain the laws of chemical attraction, under the heads of affinity, simple and double elective attraction; all which he illustrated by interesting experiments, shewing how the secondary properties of matter, as solidity and fluidity, taste, smell, color, and form, were influenced by the laws of chemistry. After explaining the principles of chemical nomenclature, he introduced the consideration of the gases. Gas was described as being a permanently elastic fluid, continuing æriform at ordinary temperatures and under ordinary pressure. The nature and properties of oxygen and hydrogen, with the mode of producing them, were then explained; and their union in the form of water was analytically and synthetically shown by experiments with the galvanic battery, and the eudiometer: the weight and properties of water were also touched upon. Nitrogen gas, its sources, preparation, and chemical compounds were then examined: the professor dwelt particularly on its compounds with oxygen in different proportions; as nitrous oxide, nitric oxide, hypo-nitrous acid, nitrous acid, and nitric acid: each of these compounds were formed and explained, and the toxicological detection of nitric acid given. The professor then proceeded to describe carbon in its three kinds: vegetable, procured by burning wood in close vessels; animal by the calcination of bones; and mineral carbon as existing in the diamond. Carbonic acid was explained; its presence in the expired breath, and its effects on flame and animal life shown, with the best modes of removing it, and of restoring persons asphyxied by it, were given: its weight was shown by pouring it out upon a taper like water. Its influence on vegetation was noticed; and carbonic oxide described and prepared by several methods. Atmospheric air,—its composition, weight, and properties, and the effect of animal and vegetable respiration upon it were next described. The lecturer then passed on to sulphur, the sources whence it is derived, its physical and chemical properties, its union with other simple substances forming sulphurets, the hydrate of sulphur used in medi-

cine, sulphuretted hydrogen, and sulphurous acid gas, and its bleaching properties. On sulphuric acid, its properties, uses, and modes of manufacture, the lecturer was very clear and perspicuous, analysing and describing this acid in its pure crystalline state, the fuming acid, and the sulphuric acid of commerce. He then described phosphorus; the improvements which had been made in its preparation, its affinity for oxygen, and compounds with it, as oxide of phosphorus, hypophosphoric acid, and phosphoric acid of three kinds, the common kind, pyro-phosphoric acid, meta-phosphoric acid, and the isomeric compounds of phosphorus and hydrogen. Chlorine and its properties were then described; its union with mercury, as the proto-chloride or calomel, and the deuto-chloride or corrosive sublimate; its properties doubtful as to the real neutralization of pestilential effluvia; the chlorides, and the important compound hydro-chloric or muriatic acid; its extensive wholesale preparation; peroxide of chlorine, its explosive nature; chlorate of potash, and some others of its compounds were exhibited. The sources of iodine; its physical and chemical properties, hydriodic acid, the hydriodates of potash, and platinum, and iodic acid followed, and detonating compound, the iodide of nitrogen. Dr. O'Shaughnessy then proceeded to describe boron and boracic acid; selenium, and its compounds, selenous and selenic acids, and the oxide of selenium; bromine and hydro-bromic acid; fluorine, the substances called fluor spar or fluoride of calcium, and fluoric acid, with power of corroding glass. The carburets of hydrogen, including the light carburet, or fire damp, the olefiant gas, or heavy carburreted hydrogen, and oil and coal gases, were then prepared and described; and also the fluid compounds of carbon and hydrogen, atar of roses, etherine, camphine, and naptha. One interesting lecture was devoted to the history, description, and uses of the safety lamps. Ammonia, and the sources whence it is obtained; viz. decaying animal matter, etc. the preparation of ammoniacal gas, and its aqueous and alcoholic solutions; muriate, nitrate, and sulphate of ammonia; carbonate, sesqui-carbonate, and bi-carbonate of ammonia were then procured and exhibited. The intricate description of cyanogen was then entered upon, and the lecturer described the various cyanurets, cyanide, cyanic acid, the cyanide of mercury; hydrocyanic acid, its poisonous properties; best modes of ascertaining its strength, caution required in preparation and administration of it. Here the professor entered into a minute elucidation of the preparation of prussian blue, formic acid, ferro-cyanuret of potassium, and its preparation. Benzoic acid, oxalic acid, tartaric and acetic acids were then described, with their salts, oxalates, tartrates, and acetates. The toxicological detection of oxalic acid, in the stomachs of persons poisoned by it, was taught, and also the formation of pyro-oxylic spirit, and pyro-acetic ether. The description of racemic acid, citric acid, gallic acid, and tannic acid formed the conclusion of the first division of the course.

The second division was prefaced by a geological disquisition on the metals and their distribution on the earth's surface; silicium or silica, pure and associated with aluminium, forming mountains. Aluminium forms the basis of earth, clay, serpentine, and wavelite. Calcium, combined with carbonic acid, forms vast rocks; its oxide, lime, combining with sulphuric acid, forms sulphates of lime, or gypsum. Magnesium and its oxide magnesia, next in abundance; forming magnesite and dolomite. Peroxide of iron found also abundantly scattered among these substances. The gradual deposition of these various rocks from water, proved by the upright stalks of plants and shells of most brittle textures being found imbedded in them: the signs of *fusion* basalt and porphyry. Marble is formed of heated carbonate of lime. Potassium and sodium, with their oxides, potassa and soda, are also abundantly found entering into various combinations, with other metals, earths, and acids. The metal potassium was then introduced, and its strong affinity for oxygen proved; a particle of this metal being dropped on ice, it blazed brilliantly. The professor described this metal as lighter than water. The source and compound of potassium were explained, particular notice being given to the nitrate of potassa, or

saltpetre, its manufacture, purification, and commercial importance: the methods of preparing the hydrate, and the various carbonates, gunpowder, and black and white flux, were also given. Sodium and its compounds, including the protoxide, per-oxide, chloride of sodium or common salt, were next touched upon, together with their various carbonates, sulphates, and tartrate. Lithium and strontium were slightly noticed by the professor; he then passed on to magnesium, aluminium, and calcium, which were treated upon, with their compounds, in the same manner as potassium and sodium. It is to be regretted that illness here prevented Dr. O'Shaughnessy from entering into the consideration of the metals so extensively as he had purposed.

The effect of this course will be best shown by the result of the examination of the professor's pupils. Our opinion of their attainments has been already expressed; their acquirements, whether mathematical, classical, or literary, are, in numerous instances, not to be surpassed by the students of any of the seminaries in Europe. They have few superstitions or prejudices, and are accustomed to regard with sorrow the moral degradation of their countrymen. Moreover their application and perseverance are not to be surpassed. They have none of the temptations of the theatre, the ball room, and the numerous friends who tempt away British youths from their studies; so that the Hindoo youths are in possession of innumerable advantages, and they have had the reward which their industry and talents had so justly entitled them to expect. The following propositions were submitted to them in order to test their qualifications.

1. Describe what is meant by the "specific gravity" of matter. Explain the mode of finding the specific gravity of a solid mass lighter than water, stating in detail the reasons for each step in the process.

2. Describe fully the chemical history of *Cyanogen*, and the mode of effecting its analysis? Describe the compounds it forms with—

Hydrogen,
Potassium, and
Iron,

especially with reference to the subjects of prussic acid and its antidotes, and the manufacture of Prussian blue, an exact account of the composition of all these substances is desired.

3. Explain the meaning of the term *isomeric*, and give illustrations of the subject with diagrams.

4. Describe the experimental proofs both analytic and synthetic of the composition of *water*, especially the evidence derived from the electric and galvanic agents.

In order that our readers may judge of their qualifications, we shall give answers from each pupil. The following is the answer of Shib Chunder Karmoocar to the first question.

A.—Specific gravity of a body means its comparative weight with another body of equal bulk; thus a piece of gold weighs heavier than its bulk of water. To find out the specific gravity of bodies with convenience, water is adopted as the standard, and its specific gravity is taken as 1; and from it the density of all other bodies is ascertained: thus, when we weigh a piece of metal in air, we will find a loss when we weigh it in water; for when we dip it in water, a quantity of water of its bulk presses it upwards to make room for the metal, and thus supporting it from descending towards the earth (in obedience to the law of gravity), lessens its weight, and the difference of its weight in water and air is the weight of a quantity of water equal to the bulk of the metal; and then, to find out the specific gravity of the body, we are to divide the weight of the metal in air by the difference, and the quotient is the specific gravity of the body: but this is the case only with bodies heavier than water of equal bulk. To find out the specific gravity of bodies lighter than water, a little modification of the plan is resorted to: and it is thus to be performed.

Take a body lighter than water, weigh it in air; and then take another body heavier than water, weigh it in air, and then in water find out the difference, and note it down: then bind together the light solid and heavy solid, by means of a piece of silk, and dip them in water and take their weight in it. (The reason of taking another body heavier than water, is to enable the body (lighter than water,) to sink into water; else it will float on its surface, and the specific gravity of the body cannot be determined:) When things are thus regulated, it only remains to subtract from the joint weight of the heavy solid and light solid in air, their joint weight in water, and we will find out a difference, and from this difference we are to subtract the difference which we found out from the weight of the heavy solid in air and its weight in water; and we shall find out a difference which is the weight of a portion of water equal to the bulk of the light solid: and then find out the specific gravity of the body in the same manner as we do in case of a solid one heavier than water.

G. J. Simons, Hospital apprentice, Subordinate Medical Department, gave the following reply to the second question.

A.—Cyanogen is an important compound as being the basis of Prussian blue and prussic acid. It acts as a simple substance in many respects, but only differring in, not uniting with the oxides of metals, but with the metals alone. At ordinary temperature it is a gas void of colour, of a suffocating odour, and acrid taste. It is highly irrespirable; so much so that if a bird be put into an atmosphere diluted with a small quantity of this gas it expires instantaneously. Is inflammable, burning with a purplish blue flame. Specific gravity 1.81;—100 cubic inches of this gas weigh 56½ grains. If this gas be collected over water, it is decomposed, its elements unite with the element of the water to form binary and ternary compounds, as hydrocyanic acid, cyanic acid, ammonia, carbonic acid, and carbonic oxide. Water takes up seven times its volume of the gas, and alcohol twenty times its volume, but does not form, like water, so many compounds, but forming simply an alcoholic solution of cyanogen. Analysis:—if 200 volumes of oxygen gas be added to 100 volumes of dry cyanogen gas, an electric spark

passes though the mixture, violent action takes place, and the result is 200 volumes of carbonic acid and 100 volumes of nitrogen.

The compound it forms with hydrogen is hydrocyanic acid or prussic acid, composed of one volume of cyanogen (which is a compound of 2 of carbon and 1 of nitrogen) and 1 of hydrogen. It exists as an anhydrous acid, and in a state of solution with water; the former is only used for chemical purposes and toxicological enquiries, the latter is also called medicinal acid, and used in chronic dysentery, pulmonic affections, &c.—The anhydrous acid exists as a fluid till 32 deg. of Farenheit, and heated above that becomes a vapour. The anhydrous acid is prepared in two ways. First—by taking a tube open at both ends, containing bicyanide of mercury; anteriorly it is connected to a tube ending in a receiver placed in a freezing mixture of salt and ice; posteriorly is attached an apparatus for preparing sulphuretted hydrogen gas, which on being heated, the sulphuretted hydrogen gas unites with the bicyanide of mercury, first turning it yellow, then black; at which time the sulphuretted hydrogen gas must be stopped and to the opening a cork is applied. Heat is then applied to the contents of the tube, and the anhydrous acid comes over in the receiver placed in the refrigerant mixture. Second mode—is treating the bicyanide of mercury with muriatic acid. The hydrogen and the muriatic acid unites with the cyanogen of the bicyanide of mercury to form hydrocyanic acid, which is received in a receiver placed in a freezing mixture, and there remains behind in the retort a bichloride of mercury.

The hydrocyanic acid is procured also by macerating bitter almonds, kernels of peach seed, laurel leaves, mountain ash leaves, peach leaves, &c. adding water and distilling. By this method (with bitter almonds) an oil comes over, containing from 40 to 50 per cent, of the concentrated hydrocyanic acid.

The medicinal hydrocyanic acid or the acid in solution is prepared in many ways. First—by making a solution of the bicyanide of mercury and passing through it a current of sulphuretted hydrogen gas. The sulphuretted hydrogen gas gives out its hydrogen to the cyanogen of the bicyanide of mercury, and the sulphur and mercury is precipitated in the form of sulphuret of mercury. The solution of the acid, in this manner procured, is sometimes contaminated with sulphuretted hydrogen gas, which is easily removed by adding to it any of the preparations of lead, as the carbonate or acetate; a sulphuret of lead is thrown down, and the hydrocyanic acid in solution is got pure. This acid contains 10 per cent of the anhydrous acid.

Second method—is got by adding muriatic acid diluted with 6 parts of water to the bicyanide of mercury and distilling. The hydrocyanic acid with 6 parts of water comes over, in a receiver, and a bichloride of mercury remains behind on the retort.

Third—CLARKE'S process for preparing medical prussic acid: Take thirty-two grains of the cyanuret of potassium, make a solution of it in one ounce of water, and then add fifty-nine grains of tartaric acid. Process—the cyanogen of the cyanuret of potassium unites with the hydrogen of the water to form hydrocyanic acid, and the oxygen goes to the potassium to form potash, the tartaric acid then takes the potash, and converts it into a supertartrate of potash. Filter the solution, the hydrocyanic acid in solution is procured in a receiver and the supertartrate of potash remains on the filter.

Fourth.—The German method: Take the ferrocyanuret of potassium, add to it diluted sulphuric acid and distil. Process—the cyanuret of potassium is decomposed, the cyanogen unites with the hydrogen of the water to form prussic acid, and the oxygen with the potassium to form potash, which with the sulphuric acid is converted into a sulphate of potash, and the undecomposed cyanuret of iron remains behind.

All these acids in solution contain from 3 to 3½ of per cent. of pure hydrocyanic acid. The dose varying from 1 to 2 and 3 drops at a time. The acid got from bicyanide of mercury and muriatic acid, contains sometimes muriatic acid, which can be got rid of by passing it over marble. A mixture of muriatic acid is good, as it tends to keep the solution in a pure state. The acid prepared by CLARKE'S method is the simplest, and the German prussic acid in solution keeps the longest.

Prussic acid, when given or taken as a poison, acts with great rapidity, and death is caused in a short time.

Its action as a poison has been proved by Dr. MAGENDIE, who applied two drops of it to the tongue of a full grown dog: the action of the acid was evident in 20 seconds, and the dog died in 30 seconds. Also other experiments tried on inferior animals prove that the action of the acid is very rapid, generally the action is shewn in 15 to 20 seconds, and death follows in 10 or 15 seconds after. Prussic acid applied to a wound on the loins or any place proves fatal; but if the acid be applied to the foot of a dog, and ligatures tied to the nerves and arteries in communication with the leg, bad consequences may be prevented.

The symptoms displayed on inferior animals, are giddiness and staggering; the animal falls down, gets into convulsions, insensibility follows, and, lastly, death. Convulsions are sometimes absent, then the insensibility is great; but when convulsions are great, the insensibility is less apparent. If the convulsions are great, there is greater hope of the patient being saved. Convulsions are caused by the action of the acid on the spinal marrow.

The morbid appearances on inferior animals, shewn after dissection, are as follow:

The brain appears to be natural and very rarely extravasation of blood takes place in the ventricles. The blood found in the heart and arteries, is fluid and black; with an odour of the acid in the pericardium, stomach, and pleura.

The action of the acid on man takes place in 6 minutes, sometimes in 8 minutes:—The symptoms are generally the same as displayed on inferior animals.

Morbid appearances after death in man—the life-like glistening of the eye, with emptiness of the heart and arteries. The strong smell of the acid, perceived in the stomach, pericardium, and pleura. The other parts of the abdominal viscera are found natural. The body does not putrify so soon as persons who die from other diseases. All these morbid appearances of the body after examination would not give sufficient reason as to the person being poisoned; as the life-like glistening of the eye may proceed from death caused by cholera, or suffocation produced by carbonic acid gas; also the smell in the stomach may proceed from incipient decomposition of tea.

The best method to give an evidence of a person being poisoned by prussic acid is by its chemical action. If it is suspected of a person being poisoned by this acid, take the contents of the stomach, introduce it into a glass flask placed in a water bath, attach to the flask, connected with a tube, another flask containing solution of potash. On heating the bath, as soon as the heat is raised to 120 deg. Farenheit, the hydrocyanic acid comes over and combines with the potash, to form hydrocyanate of potash. The hydrocyanate of potash is then tested by a proto-salt of iron, which converts it into the hydrocyanate of the oxide of iron;—then the hydrogen of the acid unites with the oxygen of the iron, to form water, and the cyanuret of iron is precipitated, to which add sulphuric acid, Prussian blue is formed.

Another method of detecting the acid is by taking the contents of the pericardium, heart, and ar-

teries, and placing it in a glass. Three solutions must be formed - one of potash, one of proto-salt of iron, and one of sulphuric acid. A paper is first dipped in the blood, then in the potash, and successively in the proto-salt of iron and sulphuric acid; if hydrocyanic acid is present, a Prussian blue is formed; if not, no colour is produced.

The treatment resolves itself into two kinds, one as a stimulant and the other as an antidote.

Ammonia is given as a stimulant. If it acted as a salt in combination with prussic acid, it would form a poison, which, instead of relieving, would kill the patient. Chlorine may also be employed with efficacy, as it decomposes the prussic acid. Cold affusion is the best of all the treatment, and sometimes specific, if given at the commencement.

The compound of cyanogen and potassium, is the cyanuret of potassium, procured by taking caustic potash, making a solution and passing through it a current of cyanogen gas, a hydrocyanate of potash is formed, which being heated, the hydrogen of the acid unites with the oxygen of the potash, to form water; and the cyanuret of potassium remains behind, in the form of a white dry powder.

There are two compounds of cyanogen with potassium and iron; these are called the proto-ferro-cyanuret of potassium and the ferro-sesqui cyanuret of potassium. The proto-ferro-cyanuret of potassium is a compound, composed of 2 eq. of the cyanuret of potassium, and 3 eq. of the cyanuret of iron, and its crystals are of a lemon yellow colour. The proto-ferro-cyanuret of potassium is prepared by taking hydrocyanic acid and treating it with potash and iron and digesting. A proto-ferro-cyanuret of potassium is got, which being heated, fine crystals are produced. Also got by heating Prussian blue or prussiate of iron with potash.

The ferro-sesqui-cyanuret of potassium is got by passing a current of chlorine gas through a solution of the ferro-cyanuret of potassium; the solution becomes green, by the chlorine taking one portion of the potassium to form chloride of potassium, and the ferro-sesqui cyanuret of potassium, lines the neck of the retort in fine orange colour crystals. This salt, on addition of a proto-salt of iron, Prussian blue is directly formed. If a peroxide of iron be used, another substance called Berlin green is prepared. If to the proto-ferro-cyanuret of potassium, be added a solution of the proto-salts of iron, and with the addition of sulphuric acid, Prussian blue is directly formed.

The cyanuret of iron is a dirty greyish white powder, which, being exposed to the air, extracts its oxygen to form a peroxide of iron, and the cyanogen previously in combination with it, unites with the undecomposed cyanuret of iron and is converted into Prussian blue.

Prussian blue is composed of 3 eq of proto-cyanuret of iron, and 2 eq. of sesqui-cyanuret of iron

Prussian blue is prepared on the large scale by taking animal matter, such as horns, hoofs, remains of old leather, &c. adding to it potash and fusing it in large iron retorts. A great number of gases are evolved, as carburetted hydrogen, carbonic acid, carbonic oxide, ammonia, &c. and there remains behind in the retort a dirty green looking compound or powder, which being treated with water, fine prismatic crystals of the ferro-cyanuret of potassium are produced, to which, if be added a per-salt of iron, Prussian blue is formed. The per-salt of iron being dear, alum, and a proto salt of iron is used.

Prussian blue, when heated in close vessels, its elements are decomposed, only a carburet of iron remains behind, which acts as a pyrophorus on exposure to air.

Nobin Chunder Paul, foundation student, educated at Mr. Hare's School, thus described the third.

A.—The term isomeric means equal in composition but different in chemical properties. When we say that true phosphoric acid is isomeric with pyrophosphoric acid and metaphosphoric acid, we mean that they are all the same in constitution, but have different properties.

	Phosphorus.	*Oxygen*
Phosphoric acid, ...	2	5
Pyrophosphoric acid, ...	2	5
Metaphosphoric acid, ...	2	5

but these have different chemical properties, such as the first precipitates nitrate of silver yellow, the second white, and the third greyish. The first admits of 3 eq. of the base, the second 2 of the base, and the third 1 eq. of the base. In the first 2 parts of water may substitute the place of the base, in the second 1 part of water may substitute the place of the base, and in the third water cannot be substituted in the place of the base.

	Carbon.	*Oxygen.*	*Hydrogen.*
Tartaric acid	24	40	2
Racemic acid,	24	40	2

The above acids are the same in constitution, but they differ notwithstanding in their chemical properties, and so on.

Issen Chunder Gangolí, foundation student, educated at the Church Mission School, thus answered the fourth.

By making water the electrolyte, it is decomposed, the oxygen evolved corresponds with the positive pole or anode, and the hydrogen with the negative pole or cathode. The gases will rise up and fill two tubes which are adapted to the vessel containing the electrolyte. The tubes are graduated, and that which is filled by hydrogen will contain twice the bulk of gas as that which contains oxygen, that is to say, the hydrogen evolved will be twice the bulk of oxygen, proving beyond a doubt that water is composed of 2 parts by volume of hydrogen and 1 part of oxygen. The composition of water is proved synthetically by introducing 2 eq. of hydrogen and 1 of oxygen into Dr. Cavendish's apparatus and exploding the mixture either by electric sparks or by heated spongy platinum. A lighted *taper* may answer the purpose, in the ordinary vessels.

Such an examination is highly creditable to the pupils and espccially to their teacher: indefatigable, eloquent, and devoted to the science, he is admirably adapted for the post he fills. Our opinion of Dr. O'Shaughnessy has been given long since, and now it is confirmed; his defects are few and may easily be removed. He is sometimes, but rarely, too quick, and hence a failure now and then in his experiments. Ungenerous critics would set his failures down to other causes; but we have traced them to their true source.

OUR JOURNAL ASSAULTED.

So we are led to believe; and we are warned to be up and doing, or we shall be put down! We are told that we have been sleeping at our post, while the enemy has been in ambush, and is now ac-

tually leading a strong and powerful body against us.

At the last meeting of the Medical and Physical Society, a proposition was made and carried that the Transactions of the Society should be published quarterly instead of annually, together with notices of new publications and proceedings of the Society—a proposition which we considered highly worthy of support, and in which we could discover nothing of party spirit or opposition to a journal which, through great labour and expence, has been productive of some good at least in diffusing medical science. On the Monday following, the standard, however, was evidently raised against it by the announcement of a quarterly journal, of a different complexion, to be edited by the secretaries of the Medical and Physical Society. On Tuesday the Editor of the *Englishman* proclaimed aloud the progress of our assailants, and joined their standard. We are therefore compelled to stand forward and to maintain our ground and our independence, against the mighty phalanx now arrayed against us by such distinguished, experienced, and talented individuals as the learned, the eloquent, and the zealous professors of the Medical College, and foreign and home secretaries of the Medical and Physical Society. But we must pause—lest we offend our learned, potent, and august brethren of the Medical and Physical Society in council sitting—lest we bring down upon our single handed defence, a body that will at once wrest from us our sling, while they in the attitude of Goliah stand against us. Thus we are forced to give the alarm and to call on our friends and supporters to rally round us. We doubt not that the Mofussil members of the Society, whom we serve and who have been the main support of the journal when it was assaulted before, will not forsake it now. Had we truckled down to the Society, had we obeyed their mandate to desist from reporting their proceedings, had we become their slave instead of assuming the attitude of independence, and asserting the rights of free men, of free discussion, and unshackled publication, we maintain there would not now have been a quarterly journal of the Medical and Physical Society arrayed against us. Ten years did the society exist, with double the number of members it has at present, when no such journal was thought of. It is only now, when the spirit of research, zeal, and talent, is awakened throughout India, and spreading into civilized Europe, that these our opponents would stand and arrest the progress of our heralds. Will they succeed? We say, never; because we know there are hundreds of voices which will echo to the sound. Our service requires a journal to declare fearlessly its rights, to bring forward its wrongs, and maintain its respectability; and we put it to every professional brother whether this has not been the line of our conduct. Have they seen us bending the knee to the influential, have they seen us covering the abuses of institutions? or have they seen the reverse?—all this we say and advance as a guarantee for our independence: we place the whole before the service as the why and the wherefore they should stand by their only journal,—a work to which we have given our time, our mind, and our hearts cheerfully. We have no pecuniary return whatever: our reward has been ample in the self-gratification of labouring for our brethren, for the cause of science and of humanity.

But we proceed to trace the cause of this open rupture against us. It will have been perceived by our subscribers that we have unequivocally expressed our opinion, not only in our reviews of works, but also in our notices of public institutions and accounts of proceedings and lectures of public men. We are told we have not lauded the Medical College. When we look around, and see the proclamation of a course of lectures not intended for the public, yet publicly advertised, and the different notices of the professors which from time to time appear; and when we mark the parade and noise about the instruction of pupils of an institution so recently founded, we confess, that, out of respect for similar institutions founded on solid and permanent principles in other parts of the world, whose progress has been developed by time only, we, holding the responsible sposition we do, can-

not consistently enter into the vortex which, though sufficient to excite the wonder of the non-professional observer, has, we are afraid, appeared to our professional brethren nothing more than burlesque or masquerade. We deeply lament being forced to say so much; but we can assure Mr. Bramley and his colleagues, however they may think to the contrary, that we hold the institution of medical colleges, conducted on right principles, to be the greatest blessings which can be conferred upon this country, and which will redound more to the honor of their patrons and founders than any other which have for their object the instruction of the people; for they will tend largely, as we have always maintained, not only to enlighten them, but substitute, for harsh and cruel treatment, acts of humanity and benevolence. But such institutions are of slow and silent progress: they do not stand in need of the din of public trumpeting or pageantry. Such then is our vindication of the course we have adopted in putting a limit to our laudatory notices of the College. That we have been one of its most zealous advocates will be perceived by every reasonable person who will carefully peruse our editorial notices of it. We were the first to propose the transfer of the museum of the Medical and Physical Society to the College, and to call upon our brethren to contribute preparations to add to its value. We did not fail to recognise the acquisition of its talented, and, we may add, experienced curator; a gentleman, who, taken in every branch of his profession, is an ornament to the College. Neither have we failed to do that justice to which the talents of Dr. O'Shaughnessy entitle him, and to the perseverance and industry of the principal, from the foundation of the institution. Looking back upon this part of our conduct towards the College, we feel proudly conscious that we have discharged our duty towards it. But we have also noticed its defects: and these are of no common order. The appointment of gentlemen who are, comparatively speaking, strangers to the climate, to the soil, and to the people, in order to teach the diseases of this climate, this soil, and this people, we cannot for a moment consider as other than a most glaring defect. It is a defect which, we fear, can never be denied. The *argumentum ad hominem*, that in discharging this public duty we were seeking a professorship, has been urged. But such charges will not deter us from a faithful perseverance.* We have pointed out other defects which must be fresh in the memory of our readers; we may therefore be spared the disagreeable task of repeating them on this occasion.

But we proceed to consider the report of the intended publication of the quarterly journal of the Medical and Physical Society. It is an exceedingly imperfect one; for it specifies nothing, but speaks in round numbers, which is not the character that such a report should assume, when it represents the sentiments of a body of scientific men, as to what is to be the character of a medical and physical society. We never can believe that medical men in India would authorize such an anomalous proceeding as the publication of a periodical like that advertised. What would be thought in Europe if the Royal Medico-Chirurgical Society were to circulate a periodical of scraps and extracts from other works, when such periodicals as the Lancet, the Medico-Chirurgical Review, &c. were in existence? Really, it appears, it would excite the ridicule of the whole medical press, as it would detract altogether from the dignity and the legitimate character of the Society. We cannot for a moment admit that it will accord with the nature of our excellent institution, by mixing itself up with discussions in a periodical press, and entering into matters foreign to its own transactions. Mr. Prinsep, in his excellent work, said to be the model of the Quarterly, publishes exclusively the original communications to the Society, and professes not to review. It was on this very account that an India Review and Journal of Foreign Science

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*We have quite enough on our hands without seeking such an appointment, and we have already mentioned the name of Mr. Brett, a gentleman whose qualifications are too well known to need further comment from us.

and the Arts was a desideratum, and on this account alone we supplied it. Thus it is we maintain that our present journal is necessary as distinct from the Transactions of the Society, and should not meet with competition in the Society. Let Drs. O'Shaughnessy and Goodeve set up a journal on their own resources. *This is fair* competition and promotive of the ends of science, and will excite a spirit of emulation and zeal; but we protest against the Committee of Management of the Medical and Physical Society lending the resources of that Society, its name, and its influence, in such an undertaking; for if they could succeed in diminishing the support we receive and in putting down our journal, their object will have been attained, and their journal too would cease. We believe that this opinion will be pretty general among the Mofussil members of the Society, and to ascertain their sentiments we applied to have access to all the correspondence on the subject.

To Dr. GOODEVE,

Sec. Med. Phys. Soc.

Dear Sir,—I beg you will do me the favor to obtain the permission of the committee of management of the Medical and Physical Society to all correspondence relating to the intended publication of a quarterly journal by the Society being laid upon the table, in the apartment containing the library belonging to the Medical and Physical Socity, in order that the members of the Society may have access to it.

I have the honor to be, Sir,

Yours very truly,

Frederick Corbyn,

Mem. Med. Phys. Soc.

Fort William, 12*th Oct.* 1836.

To F. CORBYN, ESQ.

My Dear Sir,—In reply to your letter of the 12th instant, requesting me to obtain permission of the committee of management, that all correspondence relating to the publication of the intended quarterly journal of the Society be laid upon the library table, for the inspection of the members, generally, I beg to state that I have submitted your application to the committee, who have decided that they do not approve of the proposition. They recommend you, however, to bring the matter before the next meeting of the Society, when it may be fairly discussed. The reasons assigned by the committee for this decision are;—that they consider themselves bound to furnish only the *result* of their application to the mofussil members, and that the letters themselves should not be published without the consent of the writers. At the same time they consider your request as implying an equivocal imputation upon their conduct. It would appear from it that you doubted the correctness of the report furnished at the last meeting.

I am, Dear Sir, yours truly,

H. H. Goodeve.

Sec. Med. Phys. Soc.

College, 13*th Oct.* 1836.

Every member of an institution should have access to its public documents. The reasons for refusal by the committee are not tenable; the same might be advanced in the house of commons when papers are called for; but would it be tolerated? What would be thought if members of a committee stood up and replied, I am Lord so and so, —I am the Hon'ble so and so,—I am Mr. so and so: our rank, our opinions, and our station are sufficient guarantee for our report. To call for our proceedings is to doubt our integrity, and therefore they shall not be seen, neither shall they be published. This would be a species of conservation and secrecy, worthy only of the dark ages, but not at all consistent with the spirit of the nineteenth century.

Our readers will perceive how fully it accords with the desire to exclude a reporter of the proceedings of the Society, and plainly exhibits the character of some hole-and-corner institutions in Calcutta, in which committees form themselves into oligarchical governments. This is the case in the Military Orphan Society, against which, we are happy to hear, that, out of Calcutta, 90 out of every 100 have protested. We have to apologise for this long editorial being an occupation of space, which we are far from willing to spare; but it appeared an imperative duty that we should lay the whole case before our readers; for it is not our intention of course to agitate this question before the few members who attend the meetings of the Society.

OBSERVATIONS AND RESEARCHES ON A NEW METHOD OF CURING CANCER.

By Alexander Ure, M. D., M. R. C. S.
Late House-Surgeon to the Royal Infirmary at Glasgow.

We beg to call the particular attention of our readers to the following description of a new method of curing cancer. The chloride of zinc is under trial in Calcutta, and, we understand, success is probable.—Ed.

The chloride of zinc has hitherto been turned to little or no account by the medical world. Very recently, however, Dr. Canquoin, of Paris, has published some interesting papers, pointing out its peculiar characteristic properties, and the manner of applying it with skill and apparent success in many cancerous affections.

His first memoir on the subject was presented to the Academy of Medicine of Paris on the 24th November, 1834. It contained a very general and somewhat enigmatic account of his method. He states, that it was as far back as the year 1824 he discovered the valuable caustic properties of the cloride of zinc, and then thought it might be applied, with safety and advantage, to the treatment of cancer.

In a supplementary memoir* just published by him, which has been forwarded to me by my kind correspondent Dr. Donnellan, of Paris, Dr. Canquoin has fully communicated the principles of his plan of treatment, and has frankly divulged his methods of preparing and applying this chemical agent in the cure of a disease which has heretofore baffled all the resources of the healing art. This publication details a great variety of cancerous cases, where the chloride of zinc has been applied with perfect success. He, however, cautions the profession that practice alone can guide the surgeon in its judicious application, and that, without minute study and discrimination, it may prove inefficacious, or even prejudical. Hence a failure in unskilful hands ought to be no reason for regarding the method with distrust.

Dr. Canquoin has shown that the chloride of zinc, by itself, is an unmanageable application, but that certain combinations of it with other substances furnish a caustic which may be advantageously employed in those cases of cancerous degeneration in which surgical operation affords no hopes of relief, and arsenic, the medicine usually employed, is fraught with no little danger.

The superiority of this phagedenic paste (for so the preparation may be justly named) over every other caustic, consists in its susceptibility of being applied over very extensive surfaces without any risk of injury from absorption, and in its being available wherever the surgeon's hand can reach. The depth to which it will corrode the mordid texture can always be estimated beforehand; its action is unfailing; the separation of the eschar is prompt; and it imparts an excellent character to the sore, and soundness to the suppuration. The favourable modification of the tissues, the rapidity with which cicatrization follows, and the mildness of the general phenomena that accompany its action, are additional recommendations.

To the reproaches urged against him, of having so long carried on, in a clandestine manner, the treatment of one of the most grievous ills that flesh is heir to, he ingenuously replies, that, as he was fully persuaded of arriving at the knowledge of a certain means of destroying cancerous tumors, which should altogether supersede the employment of arsenic, the sole remedy in which any reliance had been hitherto placed, but of whose fatal effects an example had occurred in his own practice, he deemed it his duty to determine with precision its efficiency by a sufficient variety of well-established cures, before submitting it to the tribunal of the public. Thus supported by uncontrovertible evidence, he would be able to conquer incredulity and disarm malevolence.

Such, indeed, he foresaw to be the only proper course to pursue, in order to secure to himself the honour of an invention that must be regarded as a most valuable contribution to science. He was conscious that, had he published his method in a less mature state, he would have been exposed on all hands to have had his plans cavilled at, and possibly placed in jeopardy, by individuals actuated more by jealousy than the love of professional improvement. The injudicious experiments of such persons might tend to impugn the veracity of his results, and compromise the introduction of a practice fraught with eminent service to the healing art.

The leading proposition enunciated in his first memoir, is that to cure a cancerous affection, the object is not merely to destroy the diseased part, but at the same time to modify more or less profoundly the abnormal vitality of the subjacent tissues; failing which, the cancer will be reproduced. This two-fold result may be obtained by means of the arsenical preparations and the chloride of antimony; but the impossibility of foretelling, in every case, whether the former might not be productive of fatal consequences, and the violent constitutional disturbances, such as the syncope, intermittence of the pulse, vomiting, alvine dejections, &c. which the latter has frequently occasioned when applied over a wide surface, have led prudent surgeons to abandon their employment. An unobjectionable substitute for them has been found in the chloride of zinc, as it fulfils the above indications, and is free from the serious inconveniences involved in their use. The rapid deliquescence of this chloride formed the main obstacle to its application. By rendering it extremely difficult to manage, and by causing its conversion into a hydrochlorate, impaired

* Mémoire sur un Nouveau Mode de Traitement des Affections Cancéreuses, par Dr. Canquoin Paris, 1835.

its power. When used alone, in the form of small fragments or in powder, it was equally impossible to set limits to its operation, or to define the injury which might accrue from its application. To obviate these evils, Dr. C. invented a paste, formed by mixing it with a certain portion of gum, or, what is still better, flour; a mixture perfectly adapted for the purpose, eroding the tissues from half a line to two inches in depth, according to the thickness given to the layer employed and to the prolongation of its contact with the diseased surface, and which never extends its action beyond the space it covers. Thus is its operation, both as to superficial extent and profundity, most entirely under the control of the surgeon.

Chemists offer the three following modes of preparing the chloride of zinc, which I have made the subject of comparative experiments:—

1st, The neutral solution of zinc in muriatic acid may be evaporated to dryness, and fused. Or it may be obtained, 2ndly, by distilling in a retort a mixture of one part of zinc with four of corrosive sublimate. Or, 3dly, by exposing to a strong heat, in an earthen retort, a mixture of six parts of decrepitated sea-salt with seven of dry sulphate of zinc; this process requires a red heat to separate the chloride by double decomposition. The product of distillation is of a greyish-white colour, translucent like wax; it enters into fusion a little above 212º Fahr., and becomes, on cooling, at first viscous, then solid.

The only notice recorded of its habitudes with organic matter, is the single fact which Black has stated, of its forming with a concentrated solution of glue a substitute for birdlime, preferable to the ordinary birdlime, in so far as it does not dry up, and may be washed off with water. The following facts have occurred in my experiments:—

When a few drops of a strong solution of the muriate of zinc are added to the albumen of the egg, a white viscid compound is formed, which, when put into water, falls to the bottom, and remains undissolved. A layer of this substance closely resembles the eschar following the application of the phagedenic paste to an ulcerated surface; and it dries in the air into a brittle, horny mass.

The solution of muriate of zinc is a good test of albumen, though not so delicate as that of corrosive sublimate.

A single drop of it produces cloudiness in a dilute solution of gelatine.

With serum of blood it forms a viscid cream coloured compound, analogous to that with white of egg. The liquid expressed from serum of blood coagulated by heat, becomes turbid on the addition of the muriatic solution.

A portion of the crassamentum, previously washed in distilled water, and then macerated in a solution of one part of the salt to ten of water, acquires in the course of some hours a firm coriaceous consistence and aspect, not unlike hepatized lung, or spleen that had been for a while immersed in the antiseptic saline solutions of the anatomist.

The preceding results may serve in some measure to illustrate its action on the living tissue. Chloride of zinc, either by itself or in the pasty form proposed by Dr. Canquoin applied to an ulcerated surface or portion of the chorion, stripped of its epidermic covering, constitutes with the organic texture, replete in albumino-gelatinous matter, a white inanimate crust or eschar. The great affinity of the chloride for albumen, may in some measure account for its energetic action on scirrhous and other mordid formations in which that principle predominates. M. Foy, in an elaborate analysis, has shown that scirrhus contains 42, and encephaloid tissue no less than 47 per cent. of albumen*. From seven to eight hours are requisite for effecting this change. In the layer thus acted upon, the chloride still retains some of its primitive energy, and modifies the subjacent parts, causing them at last to detach the slough. The chloride applied to the surface of foul cancerous sores, will instantaneously effect the decomposition of the carbonate and hydrosulphuret of ammonia, which Morin has ascertained to exist in the sanies which they secrete, and to whose presence its fœtor is in all probability owing. The renovated surface, after the separations of the slough, ceases to generate these morbid products.

This seems a probable way of explaining its physiological agency, and one, moreover, equally applicable to all analogous escharotics.

The following is a summary view of its effects, compared with other caustics:—

The painful sensation produced by chloride of zinc usually ceases in twenty-four hours; whereas that excited by arsenious acid, sulphate of copper, or chloride of antimony, commonly continues for two days. In the former case the eschar produced is white, very firm, and varies in thickness according to circumstances. The ordinary time required for its separation, according to Canquoin, is from eight to twelve days, but I have seen it completed in a shorter time. With most other caustics, from twenty-five to thirty days elapse before the sloughs are entirely removed.

Besides the pain, each caustic, after its application, gives rise to certain general phenomena, such as a local tumefaction, more or less erysipelatous in its nature, with discharge of thin fluid serum. After fused potash, and especially arsenic, these appearances are very conspicuous; whereas with the chloride of zinc they are very slight.

A degree of fever is by no means an unfrequent occurrence after its application, but that is common to arsenic, and, indeed, every other caustic, when largely applied.

Dr. Canquoin states, that the chloride of zinc, in addition to its utility in the treatment of cancer, may advantageously serve as a substitute for moxa, and as a useful means of cauterization in scirrhous affections of the neck of the uterus, and caries. I observe it has likewise been employed with success by

* Archives générales de Médecine, tom. xvii p. 185.

Dr. Honke, of Breslau, in cases of nævus maternus, fungus hæmatodes, malignant pustule, and syphilitic ulceration with a carcinomatous appearance. Dr. H., it may be remarked, employs the chloride in powder, and tries to prevent its spreading by a covering of adhesive plaister.

It now remains to notice Dr. Canquoin's manner of preparing the phagedenic paste—the mode of its application, with certain peculiarities to be attended to according to circumstances—the cases in which benefit is to be expected from its employment—and finally, the appropriate internal treatment to be observed.—*Med. Gaz.*

ART. 1.—NOUVEAU MANUEL COMPLET D'AUSCULTATION ET DE PERCUSSION, OU APPLICATION DE L'ACOUSTIQUE AU DIAGNOSTIC DES MALADIES.

PAR M. RACIBORSKI, M. D. P.,

Ex-chirurgien Militaire, Professeur de Médecine, Chevalier de la Croix Militaire d'Or de Pologne. Paris, 1835. 12*mo. pp.* 302.

New and complete Manual of Auscultation and Percussion, applied to the Diagnosis of Diseases. By M. A. RACIBORSKI, M.D., &c. Translated by WILLIAM FITZHERBERT, B.A. Cambridge. *London :* sm. 8vo. pp. 204. 1835.

We shall proceed this month to glean valuable matter from a new, popular, and ably conducted work, the British and Foreign Medical Review, conducted by Drs. Conolly and Forbes. We have received a letter from the latter gentleman, in which he has very handsomely promised to co-operate with us in diffusing Medical Science, from India as well as to meet the wishes of his brethren, in giving an early review of works published in this country. We shall always feel pleasure in being the medium of communication, through our agents in London, to Dr. Forbes.

The writings of Williams, Stokes, Graves, Elliotson, Corrigan, and Hope, in this country, and of Colin, Louis, Andral, Bouillaud, Piorry, and others, on the continent, have perpetuated and familiarized the labours of the illustrious Laennec, so as to render any formal introduction of the subject matter of the present work wholly unnecessary.

Auscultation and percussion, however, though familiar to the ears of British students and practitioners, are yet very far from having attained their acme of practical application, and we hail with pleasure every effort calculated to redirect attention to a study which we believe capable of removing much of the obscurity that too often attends the practice of the most enlightened members of a confessedly difficult profession.

As old advocates for the advantages of physical diagnosis, we will venture to commence the brief notice which we mean to give of M. Raciborski's work, by advising him, and all who write in defence of auscultation and percussion, not to weaken their arguments by seeking them in the extremes of ignorance and inattention, but rather to contrast the superiority of physical examination, with the practice of the most sagacious and enlightened, when deprived of such invaluable auxiliaries. All dogmatic assertions affecting questions foreign to those under discussion, and of admitted difficulty, should be carefully avoided ; for we do not hesitate to say, that auscultation and percussion are *not* capable of "detecting the *least vestiges* of a pathological condition."

Percussion, it is well known, was discovered by Auenbrugger, but scarcely practised until revived by Corvisart. Its subsequent progress is mainly to be ascribed to the indefatigable and ingenious researches of Piorry, who not only demonstrated the superiority of mediate over immediate percussion, but successfully extended its utility to the examination of the abdominal as well as the thoracic organs. In England, we feel convinced that percussion has not been sufficiently attended to ; both its difficulties and advantages have been much underrated, and we may almost say, that we have scarcely met a single practitioner who could practically avail himself of all the advantages it is capable of affording. Abdominal percussion is even now only occasionally practised, and we have often witnessed much uncertainty in the minds of practitioners whether a tumid abdomen was distended with air or fluid, whether the intestinal canal was loaded with solid or gaseous contents ; whether tumours depended on a partially inflated intestine, or were the result of morbid deposit ; doubts which could scarcely be agitated were percussion understood and properly applied.

The necessity of attending to individual varieties is judiciously insisted upon. Our standard of what is healthy or morbid must be founded rather upon the transition in the sounds as we pass from organ to organ, than by comparison with any fundamental type, which indeed does not exist.

It might have been mentioned as a distinguishing mark of dulness of percussion arising from the liver or the lung anteriorly and inferiorly on the right side, that, if the patient draws a deep breath, the hue of dulness is depressed when it depends on the liver : if on the lung, it remains fixed. No allusion is made to the valuable information to be derived from ocular inspection of the chest ; nor is the subject of mensuration of the thorax adverted to throughout the work : yet these two methods, although not strictly included under the terms which form the title of the volume before us, are almost inseparable from the practice of auscultation and percussion. To the former of these (inspection) we would particularly direct the attention of the student, as affording signs, at once the simplest, most easily learnt, and most certain. In the ear-

lier stages of phthisis, it is often possible to detect a marked difference in the expansion of a part or the whole of one side of the chest when the stethoscope gives us little or no information, and this even (at least in females) without any removal of the clothes.

The manner of the patient's breathing. Many mistakes in diagnosis have, we are sure, arisen from the observer not being aware of the modifications in the respiratory murmur depending on the mode of inspiration and expiration. Care should be taken that no unusual effort be made; that the ribs are distinctly elevated and depressed; that the feeling of agitation frequently felt at a first examination has subsided; and that no unnecessary sounds are produced by the nose or mouth. The most contradictory results may be obtained by different observers who are unequally impressed with the importance of the above precautions, the same chest being to one an example of normal respiration, while to the other there is an almost total absence of respiratory murmur.

We also regret that no notice is taken of the *expiration* as a stethoscopic sign of value and importance. In the natural conditions of the lung, there are some slight variations as to intensity; but to the ear the expiration appears always deeply seated, shorter in duration, and more bronchial in its character, than the inspiration, and evidently produced in the larger bronchi. In proportion as the density of the pulmonary parenchyma is increased, the expiration becomes more and more superficial, approximates both in duration and character to the inspiration, of which it seems rather a repetition than an echo; and, in cases of emphysema and bronchitis of the smaller tubes, is often more distinctly heard than the inspiration. The fact of expiration being increased under the opposite conditions of condensation and rarefaction of the pulmonary structure, may be reconciled by the consideration, that increased expiration depends on diminished elasticity as well as increased density of the lung. The former condition renders the entrance of air into the imperfectly collapsed lung too gradual for the production of sound, while, during expiration, the superficies of the organ being compressed by the collapsing parietes, the contained air is more or less suddenly expelled through the smaller bronchi, and sound is the consequence. When the lung is condensed, the superior conducting power of the medium sufficiently explains the superficial state of the expiration. We purposely direct the reader's attention to the subject, satisfied that the study of the expiration is of peculiar value in relation to the detection of tubercular deposition in the substance of the lungs, before it is capable of being discovered either by percussion or modified inspiration.

M. Raciborski attributes emphysema to the mechanical action of the cough, distending the bronchi and air-cells, and destroying their elasticity. Under these circumstances, a portion of the inspired air remains imprisoned, while the fresh supplies are no longer capable of producing the murmur arising from the gradual vesicular expansion. We think this explanation in many instances correct, but cannot apply the term "Hypothetical" to the opinion of Laennec, who attributed emphysema to the rarefaction of the structure of the lung; for there are certainly cases in which the cells are not only distended, but extensively ruptured, in the way he has so accurately described.

The author's assertion that "the 'rubbing sound' (*bruit de frottement,*) is heard whenever a false membrane exists between the two pleuræ, whether it adheres to only one of them, or extends from one to the other," is far too absolute. In cases where adhesions are very recent and soft, where they are chronic and universal, where they are thinly scattered and very cellular in character, and in many other circumstances which interfere with the expansion of the affected side, auscultation is incapable of detecting their presence. It has been doubted whether the sound which has been aptly compared to the creaking of new leather, and which depends on a fibro-cartilaginous membrane, can be heard in the clavicular portions of the chest, when the movements of the lung are so limited. We can amply confirm the affirmative experience of Dr. Stokes on this subject; and can state that it not unfrequently accompanies the other signs of tubercular deposit; and, where it forms the parietes of a large excavation, and, consequently, where motion is impossible, it may be produced at pleasure by pressure on the corresponding portions of the chest, either by the ear or stethoscope.

The sibilant and sonorous bronchi are too hastily noticed. The young auscultator should, at least, be informed that the former are seated in the smaller bronchial tubes, the sonorous in the larger. It is justly remarked, that they are more distinctly heard after expiration than inspiration. Dance considered this to depend on the air being forced out more gradually, on account of the diminished energy of expiration; but we should rather say that the obstruction being seated in the bronchial tubes, these were acted upon during inspiration by the column of air filling their caliber and accumulating beyond them; while, during expiration, the distended vesicular portion of the lung being compressed by the collapsing parietes of the chest, the air is forced through the narrowed channels of the bronchi more rapidly than it had entered, and with a proportionate increase of sound. In emphysema, where a similar phenomenon is observed, it is owing to diminished elasticity rather than bronchial obstruction. Our author again cites the researches of M. Dance in explanation of the metallic tinkling. This accurate observer attributes it to the bursting of an air-bubble on the surface of liquid. That this is frequently the case is rendered probable by the numerous experiments of M. Beau, who ingeniously explains the fact of the sound being heard during expiration, coughing, talking, &c., in the following manner. In the majority of cases the pulmonary parenchyma surrounding excavations is hepatized and does not collapse during

expiration; the air, expelled from the rest of the lung, rushes through the bronchi communicating with the cavern as well as with the trachea, and again acts locally on the former as in the act of inspiration. This may occasionally be the case, but it is equally certain that neither the existence of liquid effusion or bronchial communication are essential for the production of metallic tinkling; for, as Dr. Williams justly instances, it may be heard distinctly in the meatus auditorius externus, on covering the ear with the palm and striking the back of the hand with the finger; also in many other circumstances it is quite unconnected with the conditions alluded to by M. Beau. It is, in fact, the result of vibrations in a limited and more or less elastic excavation, closed or only slightly communicating with the external air.

In the discussions by M. Bouillaud on the subject of the bellows-sound, no notice is taken of the effect of an enlarged heart, acting on the pulmonary substance, in giving rise to this sound in the cardiac region. The sound occasionally produced by this cause has been supposed by experienced stethoscopists to arise from valvular disease, and is so similar in tone and *rhythm*, that without other distinctive characters the error is almost inevitable. The fact of a bellows-sound, occasionally being produced by the influence of the heart upon the lung, has been adverted to by Laennec, Law, Hope, and others, but it has been attributed to the compression of the thin layer of the lung intervening between the pericardium and thoracic parietes, and considered to be constantly synchronous with the respiration.

We are satisfied that the seat of compression is one or more of the larger bronchi, and that, when considerable, the impediment to the entrance of air into corresponding portions of the lung is sufficient to produce a succession of interrupted rushings of that fluid during the effort of respiration, which are not to be distinguished as sounds, from those depending on the heart itself.

When aware of the possibility of such a result, its reality may easily be determined by making the patient hold his breath, when the sound immediately disappears. Its existence on the right side or the left, its affecting the upper or lower lobes of one or both lungs, may assist our conclusions as to which side of the heart is principally affected. Interrupted respiration, voice and cough, are necessarily propagated in the lobe where the ramifications of the compressed bronchi terminate, and diminished respiration with accumulated bronchial secretion are among some of its secondary effects.

We are also desirous of impressing the young auscultator with the necessity of attending to the direction and extent of the cardiac sounds. When the lungs are healthy, the sounds from the right and left sides of the heart have their distinct mode of transmission through the chest, and attention to this is of great importance when unravelling the often difficult problem of which is the affected side. The relative intensity of the heart's action under the sternum, below the right and left clavicles, in the epigastrium, at the lower and posterior portions of the chest, should be carefully and successively studied, and if we conjoin the results with the comparative examination of the arterial and venous circulation, not omitting the important aid of percussion, we shall be able to form a far more accurate diagnosis of the nature and seat of cardiac disease than is generally thought attainable.

The same element of the direction of the sound will greatly assist us in our attempt to solve the very difficult problem as to which of the orifices of the heart is the seat of disease, in the case of anormal sounds.

Should the obstruction be situated in the sigmoid valves of the aorta, the anormal sound will be conveyed along the large arterial trunks, and be heard in the carotids and subclavians, while over the heart it will be limited to the region corresponding to the left ventricle; should, however, the auriculo-ventricular orifices be diseased, no sound will be transmitted through the vascular system, but it will be more diffused over the base of the heart, and in cases of dilated auricle will extend upwards towards the clavicle, at a certain distance from which it will suddenly cease. These remarks are principally applicable to the left side; the comparative rarity of valvular disease in the right diminishing the importance of correct diagnosis. We are quite aware that these distinctions are not without difficulty, and that they require time and attention to be appreciated; but we are equally aware of their practical utility, and without regard to minutiæ, we seriously abridge the advantageous application of auscultation and percussion.

Another novel application of auscultation has been discovered by Dr. Ficher, an American physician, who cites several cases of meningeal inflammation, where, by applying the ear to the head, a distinct "encephalic bellows-sound" was heard, depending, he believes, on the compression of the numerous arteries at the base of the brain. What strongly confirms the justice of this opinion is, that the sound is considerably diminished, or wholly disappears, when the circulation in the carotids is impeded or arrested.

Application of auscultation to pregnancy. The cause of the placental sound has given rise to much diversity of opinion; and, since it is still *sub judice*, we shall detain the reader for a short time, while we endeavour to arrive at the most probable conclusion on the subject.

M. Kergaradec considered it produced by the passage of the blood through the placental vessels; Laennec placed it in the uterine arteries; M. Paul Dubois in the vascular system of the tissue of the uterus generally; Dr. Kennedy in the uterine arteries, aided probably by the circulation in the maternal placenta; and a very recent writer, in the enlarged uterine vessels corresponding to the portion immediately connected with the placenta.

Admitting any one of these hypotheses, perhaps the majority, if not all of the phenomena might, to a certain extent, be accounted for;

but, believing that it is always better to extend the applications of known principles than to invent new ones, we shall give the preference to the opinion of M. Bouillaud, who attributes the placental murmur to the compression of one or more of the large vessels of the abdomen, as the hypogastric and external iliac arteries, by the uterus charged with the produce of conception. In the first place, it is not probable that the action of the mother's heart should be propagated so distinctly to the last ramifications of the uterine or placental vessels, and retain its intermittent character. Such a state of circulation would be different from any we are acquainted with in the tissue of our different organs, and difficult to reconcile with the fact of the fœtal circulation being wholly independent, as far as rhythm is concerned, of that of the mother. Under all other circumstances where a similar sound is produced, it may be traced either to compression or obstruction of the cavities of the heart or large vessels; and the nicest and most practised ear, as, Dr. Montgomery observes, (Cyclopædia of Practical Medicine, art. *Pregnancy*,) cannot detect any difference between sounds produced by these conditions and those accompanying the pregnant uterus. This accurate observer has recorded a case of enlarged carcinomatous uterus, where the phenomenon was heard in the most perfect manner, and another instance of abdominal tumour compressing the aorta, where the sound was equally distinct; and he mentions the well-known fact, that it may at any time be imitated by pressing the end of the stethoscope over the region of the iliac vessels. M. Bouillaud has succeeded in displacing the placental murmur by making the patient lie alternately on the right or left sides; and we have ourselves distinctly produced the same effect. Our own experience is also opposed to the generally expressed opinion that the maximum point of intensity of the sound is always identical in the same individual; the fact of the sound being limited, in the great majority of instances, to the placental side of the uterus, would simply depend on only one artery being compressed; and probability is greatly in favour of that pressure coinciding with the heaviest portion of the womb.

A still more powerful argument in favour of the sound being the consequence of uterine pressure in one or both of the iliac arteries, is its being heard over the femoral artery, and on the side corresponding to the uterine murmur. By changing the position of the patient, we have been enabled distinctly to transfer the bellows-sound from one femoral artery to the other. It is, however, but right to mention that this result has been verified in only a single instance; no other opportunity for careful exmination having presented itself since our attention was directed to this particular view of the subject.

The more diffused character of the sound, in the advanced stages of pregnancy, may be accounted for by the greater arterial surface exposed to the uterine pressure; and the sound being occasionally audible for a short time after the placenta is detached, but instantaneously ceasing when contraction has taken place, would, in the first place, depend on the volume of the uterus not having materially lessened, and in the second, on the conditions necessary for pressure no longer existing. We may also advert to the fact of the sound never being detected before the uterus has risen above the margins of the pelvis, or, in other words, until it would be capable of acting in the manner we have supposed; and every writer has described the placental murmur as most distinctly heard in one or both iliac regions. The changes in the character of the sound by the cessation of the fœtal circulation, by the removal of the placenta, the death of the fœtus, or tying the cord, may all be explained by the concomitant changes in the volume and weight of the uterus.

The fact that a bellows-sound can be detected in cases of bronchocele, as first noticed, we believe, by Dr. Forbes, is rather confirmatory than opposed to the views we are advocating. The carotid arteries are in precisely analogous situations to the iliac, and a bellows-sound existing or not existing under these circumstances, with all its various modifications, is simply depending on the interference or non-interference of the swelling with the large cervical arteries, and not upon any vascular peculiarity of the tumour itself. We have recently met with an instance in which the evidence of this was most satisfactory: the middle lobe being largely developed and presenting no bellows-sound, while the lateral lobes, of very moderate size, but passing between the sterno-cleido mastoidei muscles and the carotids, allowed it to be distinctly heard. In answer to the enquiry whether the same result will be obtained in active hypertrophy of other parts of the system, we would reply, that we are not aware of any bellows-sound having been heard where no arterial obstruction could be suspected. We feel therefore justified in suggesting the latter condition as the real source of the sound wherever it may be found.

The section on diseases of the liver is not sufficiently complete for every purpose of practical diagnosis. M. R. very properly insists on the advantages resulting from attention to the effects produced by change of position; but in addition to what we have already pointed out, as a distinguishing mark between dulness of sound arising from the liver or the hepatized right lung, he might have insisted upon the absence of bronchophony over dulness corresponding to the liver; and the state of the intercostal spaces, which are filled up and even prominent when acted upon by fluid, depressed when answering to solid hepatic enlargement. Dr. Stokes has also shown that where the liver is depressed below the edges of the ribs by pleuritic effusion, there is a distinct intermediate sulcus or depression formed by the imperfect adaptation of two convex surfaces, and which does not exist in cases of enlarged liver. The hypochondrium is also much less everted, the edges of the false ribs are less thrown outwards where the liver is simply depressed than where it is enlarged.

We have also derived assistance, particularly in stout subjects with enlargement of the left lobe, by defining the extent over which the cardiac sounds are propagated below the pulmonary thorax; finding them cease suddenly below the limits of the liver.

In addition to the author's remarks in the section on dilatation of the stomach, we would observe that where the volume of the organ is considerably increased, its limits may be ascertained by making the patient drink a large quantity of fluid, and comparing the results of percussion before and afterwards. Auscultation would also detect the situation of the descending fluid.

The disappearance of the tympanitic sound of the cæcum, by change of position, is one of the most available and convenient tests for detecting inconsiderable peritoneal effusion. Auscultation has lately been applied to the diagnosis of peritonitis, the false membrane producing a rubbing sound similar to what occasionally exists in pleuritic affections. We have not yet verified this result, though analogy is in favour of its existence.

The section on bronchitis is clear and concise. M. Raciborski thinks, and we believe justly, that it would be difficult always to explain the productions of the sibilant rhonchus by the congestion and thickening of the mucous membrane ; and that most generally, this rhonchus is occasioned by a thin lamina of viscid mucus lining the internal surface of the bronchi, the caliber of which is already more or less diminished by the effects of inflammation. The sudden appearance and disappearance of the sound after the expectoration of a small quantity of viscid mucus is thus easily explained and accounted for.

The physical conditions of the lung during the progress of pneumonia are well delineated. M. R. cites two observations to prove that crepitation is not invariably present in the earlier stages of the disease, and that bronchophony may appear and disappear without being either preceded or followed by this usually attending rhonchus. To account for this, M. R. supposes that there was considerable congestion of the vesicular parietes and their consecutive obliteration. In the examples of peripneumonia notha so well described by Piorry, both the crepitous rattle and bronchophony were absent. Allied to the above facts are the interesting observations of Dr. Hudson on typhoid pneumonia, in the Dublin Medical Journal, for July, 1835. The absence of crepitation and bronchophony is ascribed by Dr. H. to the compression of the air cells by sanguineous congestion, at once interfering with visceral expansion, and leaving a disadvantageous medium for transmission of sound. In these cases bronchophony, if subsequently present, would result from the consolidation of the effused fluid.

A still more remarkable deviation from the usual physical signs, is " a tympanitic clearness on percussion over a solidified lung, without air being present in the pleura." It varies, says Dr. H., in degree rather than in kind from what we hear when percussing the empty stomach or cæcum, and resembles the metallic tinkling occasionally found in a tubercular cavity ; it is also at times as clear as in a case of pneumo-thorax. This physical paradox is said to have been verified by dissection in four instances, and the clearness and accuracy of Dr. H.'s details entitle the subject to attention. Does it depend, asks Dr. H., on the transmission of the gastric resonance through the lungs ; or on the facility with which the vibrations of the air in the bronchi are communicated to a lung *solid throughout*, and therefore not permitting the loss of such vibration? For ourselves we can only say, that if the fact is undeniable, which we may be permitted to doubt, it is equally inexplicable.

Art. II.—OBSERVATIONS ON THE PRINCIPAL MEDICAL INSTITUTIONS AND PRACTICE OF FRANCE, ITALY, AND GERMANY, WITH NOTICES OF THE UNIVERSITIES, AND CASES FROM HOSPITAL PRACTICE; TO WHICH IS ADDED AN APPENDIX, ON ANIMAL MAGNETISM AND HOMŒOPATHY.

BY EDWIN LEE,

Member of Roy. Coll. of Surgeons, formerly House Surgeon to St. George's Hospital. London, 1835, 8vo. pp. 216.

Mr. Lee's account of the state of medical practice in France is succinct and interesting : it is evident that French physicians are becoming less governed by theory, and more guided by symptoms ; or, in other words, that the practice among them is becoming more rational. Since the publication of the opinions of M. Broussais, bleeding has been more boldly resorted to ; but the French seem negligent of following up bleeding by medicines calculated to amend the secretions, or even to remove vitiated accumulations ; the consequence of which is that symptoms arise which appear to call for a repetition of the bleeding, and patients are sometimes bled and starved to death. We believe this even not to be very unfrequent in fever cases, and Mr. Lee gives a striking case of typhus in illustration of it (p. 58, see also p. 26). M. Louis and M. Andral should be mentioned, however, and are so, by Mr. Lee, as exceptions to this practice ; both of them employ saline purgatives and other medicines in such cases. The more frequent and varied employment of baths in chronic diseases appears to be advantageous in French practice, and is, we think, beginning to be attended to in this country. Mr. Lee very properly thinks that " the practice of abstracting blood and applying irritants at a considerable distance from the seat of the disease, on the principle of revulsion, might be more frequently adopted with advantage in England, especially in affections connected with cerebral irritation or congestion." A small bleeding from the ancle, a few leeches applied to the thighs or arms, especially to the latter, blisters to the legs,

sinapisms to the feet, &c., are often singularly useful; and it is certainly to be regretted that English practitioners are often so inclined to condemn measures of this kind as trifling; we mean, of course, only in chronic cases.

In the treatment of burns and scalds, stimulating applications are less used on the continent than in England: bleeding, opium, cataplasms, or emollient dressings, being the usual means employed. Whatever is the seat of the injury, the application of ice to the head for an hour or two is strongly recommended; its effect being to cause a cessation of pain, and to prevent cerebral symptoms.

Under the head of each Parisian hospital, a concise account is given of the practice of the medical officers, and this is illustrated by occasional cases. We can only find space for a few brief extracts from this interesting part of the work.

The hospital of La Pitié has the advantage of the services of some of the greatest men in Paris, MM. Louis and Andral being the physicians; and MM. Lisfranc and Blandin the surgeons. M. Lisfranc is well known to English students for the boldness and dexterity of his practice, especially in cases of diseased uterus.

"M. Lisfranc has charge of two men's and a women's ward, most of the cases in the latter being marked as disease of the uterus; many of these patients are, however, young women affected with superficial erosion of the cervix uteri, and are cured by a few days' rest and appropriate treatment; the means resorted to in these cases, as well as in ulceration of this part, being chiefly confinement to the recumbent position, occasional venesection to three or four ounces, on the principle of revulsion, small doses of cicuta, and cauterization with a solution of mercury in nitric acid every six or eight days; when the ulceration is of a cancerous nature and too deep to be removed by cauterization, M. Lisfranc has recourse to excision of the cervix uteri; this part being exposed by the speculum, and firmly seized by *pinces de museaux*, is brought down beyond the orifice of the vagina and excised with a knife, as in cases of polypus. M. Lisfranc has not met with more than four or five cases of dangerous hæmorrhage after this operation, the symptoms which supervene being mostly of a nervous character and sometimes alarming, but mostly yield (yielding) to sedatives. Of ninety-nine cases in which he operated, eighty-four recovered: many of these patients became subsequently pregnant, and experienced no particular inconvenience in parturition." (P. 64.)

Mr. Lee adds, what few will doubt, that the operation has been performed in many cases in which it might have been avoided. M. Lisfranc treats *phlebitis* (supervening on venesection) by emollient fomentations and cataplasms on the inflamed part, with the repeated application of leeches between the point where the inflammation terminates and the heart; and he states, that since he adopted this practice, he has not lost a single patient from this disease; whereas when he employed other means, and applied leeches near the wound or over the inflamed vein, the majority of cases terminate unfavorably.

MM. Alibert and Biett, the physicians to the hospital of St. Louis, are also well known to English practitioners; the first by a splendid publication on diseases of the skin, the second by his enlightened practice in cutaneous, scrofulous, and malignant affections. The opinions of M. Biett on the use of baths in cutaneous diseases may be useful to the English reader.

"Simple tepid baths are most beneficial in the dry scaly forms, though only as an accessory means; their efficacy is less marked in the pustular varieties: they are serviceable in vesicular affections when the inflammation begins to decrease, and may be used with advantage in impetiginous affections where incrustations have succeeded to the pustules.

"Alkaline baths are efficacious in the papular and dry scaly forms, and in the impetiginous and tubercular varieties. An alkaline bath may be formed by dissolving in a simple bath from half a pound to a pound of carbonate of soda.

"Sulphur baths are most useful in the decline of vesicular affections: they are less useful than alkaline baths in the chronic stage of psora, and if used in the inflammatory stage the symptoms are aggravated. Sulphurous baths are composed of two ounces of diluted sulphuric acid and eight ounces of hydro-sulphuret of potass added to each bath.

"Acid baths may be made by adding to each from four to eight ounces of hydrochloric acid; they are mostly applicable in dry scaly eruptions." (P. 69.)

In the account of the Hôpital des Enfans Malades (p. 75), we perceive that the mortality among the unfortunate children is stated to be one in four, which we believe to be rather under than over the truth. According to our own painful observation, this horrible mortality is to be ascribed, in a great measure, to the *expectant* system of medicine; to starvation, and gum-water, conjoined with the too free use of leeches.

M. Civiale, whose name is familiar to us in connexion with lithotrity, has a small ward in the Necker hospital, and the following is mentioned in the account of his practice.

"Paralysis of the bladder, and vesical catarrh, in elderly people, are treated in the following manner:—a stream of cold water flows from a reservoir fixed near the ceiling, through an elastic gum tube, having stop-cocks, and terminating in a silver catheter formed into a double tube by a central partition. The patient being in the recumbent position and the catheter introduced, the water passes into the bladder by one side and out by the other. A continued stream of water through the bladder is thus kept up for about ten minutes, and repeated every second or third day: the quantity of water passing into the bladder may be regulated by the stop-cock, so as to prevent undue distention. The beneficial effects of the method are attri-

buted to the clearing away of the accumulated mucus, and to the tonic action of the cold water upon the bladder." (P. 79.)

ART. III.—COMMENTATIO MEDICO-PRACTICA DE MORBIS INTESTINI CÆCI, ET DE DIGNITATE HUJUS VISCERIS PATHOLOGICA IN DIJUDICANDA PASSIONE COLICA ET ILIACA.

AUCTORE LUD. HERM. UNGER, MED. ET CHIR. DOCT, &c,—*Lipsiæ* 1828. 8vo. pp. 69.

On Phlegmonous Tumours in the Right Iliac Region. By J. M. FERRALE, Esq., Member of the Royal College of Surgeons in Ireland, Surgeon to the Maison de Santé and the Institution for the Treatment of Scrofulous Complaints.—*Edinburgh*, 1831. 8vo. pp. 24.

Observations upon a peculiar Disease of the Cæcum, or Caput Coli; contained in a Letter to DR. CRAMPTON, *from* FRANCIS W. SMITH, M. D., one of the Physicians in Ordinary to his Excellency the Lord Lieutenant; Fellow of the College of Physicians (in Ireland), &c. &c. &c.—Dublin, 1835. 12mo. pp. 47.

For the benefit of such of our readers as may not be acquainted with the memoirs referred to, it may be useful here to state, that the affection under consideration, and which we think very improperly designated by M. Dupuytren and Mr. Ferrall by the name of "Phlegmonous Tumour," is a local disease of the cæcum, and although, perhaps, not in all cases essentially and primarily inflammatory, yet hardly ever attracting the attention of the physician, or even of the patient, until exhibiting evident signs of phlogosis of that bowel, or, still more commonly, of that and the tissues exterior to it and immediately surrounding it. "Herbam crevisse apdoret," says Dr. Unger. "non apparet crescere." (P. 38.) In certain cases, (and Mr. Ferrall's first case appears to have been of this kind,) the local affection seems to consist simply of a painful over-distention of the bowel from fæcal accumulation, arising from some of the various causes of disease to which this portion of the intestinal canal is, from its peculiar functions, liable. Dr. Unger considers fæcal accumulation, from neglect in yielding to the natural stimulus to empty the bowels, as the most common cause. (P. 42.) In general, however, the disease is of an inflammatory character from the beginning, consisting essentially of a slight chronic inflammation of the mucous membrane of the *caput cæcum*, producing a stoppage of its peristaltic action, and consequently an accumulation of its contents, with perceptible tumour of the part, and eventually, the extension of the inflammation to the exterior of the bowel, with all the ordinary accompaniments of a local and superficial phlegmonous inflammation superadded to the internal intestinal disease. The cause of this peculiarity of the cæcal inflammation extending to the adjoining tissues is found in the fixedness of this bowel, and in the peculiar functions it has to perform, and the consequent disarrangements to which it is liable. This inflammatory affection of the cæcum may be divided into three stages or degrees, first, when the inflammation is slight, and almost or altogether confined to the coats of the intestine; secondly, when it involves the surrounding parts, and presents the characters of a local phlegmon, seated more or less deeply; and thirdly, when suppuration has supervened in the cellular tissue, and the escape of the pus by the surface, or by perforation of the bowel, has produced a disease of a complex character and of a very dangerous nature. Of these three forms of the disease, the first and second are, fortunately, by much the most common; and the second is probably that which is most commonly met with in practice, owing to the preliminary stage being often overlooked, or not sufficiently attended to, to be the subject of the physician's or surgeon's care. The last is extremely rare.

The only part of Dr. Smith's account of the disease that possesses the least interest, is his description of the early stage; but this is so overloaded with minutiæ which have no essential connexion with the particular pathological state in question, that no distinct picture is left on the reader's mind. Positive and negative symptoms are jumbled together in the strangest confusion; many are noticed as present which have nothing to do with the disease, and many are recorded as absent which the disease can never have any thing to do with. We therefore prefer to extract a brief account of it from the work of Dr. Unger.

"The invasion of this affection is very insidious, as its early progress is accompanied by little inconvenience, hardly calls the attention of the patient to it, or, at least, is not deemed deserving of medical aid. Step by step however it advances, silently undermines the health, and finally gives rise to imminent danger. No single symptom is of sufficient weight or constancy to indicate the presence of this affection: all must be viewed in connexion, and carefully, in order to establish the diagnosis. In the more simple cases the following are the ordinary marks of the disease: the patient does not lose his strength, but abates somewhat in his wonted activity, and he looks ill. Pains in the iliac and colic regions, somewhat of a periodical character, go and come; sometimes they extend over the whole abdomen, and are felt most during the period of digestions when the peristaltic action is at its height. There are few signs of any gastric affection, except a reddish tongue and some thirst: and the appetite is not quite gone. The patient becomes low spirited, seeks for ease on the couch, where he prefers to lie on the right side with the thighs drawn up; he soon wearies, gets up discontented, but shortly lie down again. The pulse is small. The

vine excretions are unhealthy; the bowels are at one time confined, at another relaxed, the stools being neither large nor figured, but loose and mucous, and passed without producing the expected alleviation of the previous pains. If at this stage we examine the abdomen, we find it in general of the natural form, soft and not tender as in the case of ordinary inflammation, but if we press forcibly in the right iliac region so as to depress the integuments to a considerable depth, we produce a feeling of pain." (P. 41.)

The following is an extract from Dr. Smith's work, descriptive of the same stage of the disease, purged, however, (a liberty which we hope the author will excuse,) from not a little of the extraneous matter and repetitions by which the original is disfigured. This extract will, we hope, satisfy our readers that the English author has less cause than he imagines for pluming himself on his originality.

"The first symtoms complained of by the patient are dull pain of the right side, which can be increased by pressure; an inability, or, more properly speaking, a disinclination to go to sleep on the left side, the bowels present a great degree of irregularity in their action, the stools being for the most part dry, scanty, and unfrequent, and not unusually clayey in colour, and imperfect in consistency; slight diarrhœa, generally appearing from time to time at intervals of uncertain duration; the urine is in most cases high-coloured, and abounding in animal salts: occasionally, however, it is natural in its appearance and qualities. The appetite, generally, is undisturbed; the tongue, sometimes, slightly furred, and of a whitish or yellowish colour in the mornings, but is as frequently of a healthy colour and appearance; the pulse is slower and more languid than in health; the countenance begins to assume an unhealthy, yellowish appearance; the individual loses flesh. As the disease advances the pain becomes more distressing, and the region in which it makes itself felt more extensive; from having at first been felt as a dull, undefined pain in the right side, the patient now feels it in the whole region lying between the cartilages of the false ribs on the right side, and the crest and spine of the ilium. The stomach still continues to perform its functions, but nutrition does not take place in a sufficient degree to repair the waste of the body; the liver begins to become irregular in its action: flatulency of the bowels becomes a distressing symptom. The skin now acquires a preternatural dryness, and the patient altogether acquires a sunk and marasmatic appearance. If at this period we subject the patient to a suitable examination, we shall find that, if we make pressure downwards and to the right side, we shall very considerably increase the sufferings of the patient; and, if we commence our pressure from a point midway between the navel and the superior anterior spinous process of the ilium, and carry it in a direction downwards, outwards, and to the right side, we shall soon arrive at a point where the pain reaches its maximum. The pain is frequently described as shooting and radiating in all directions from under the finger, but principally in an upward direction. I have in a few instances known the pain to extend, under those circumstances, even up to the point of the shoulder; we shall, at the same time, in general be able to discover a tumour of a pretty considerable size, hard consistency, and irregular figure, occupying and swelling upwards from the iliac fossa." (P. 12.)

The treatment of this complaint, in the early stage of it under consideration, is sufficiently obvious. The principal indications are to subdue the inflammation by the local application of leeches and fomentations, and to remove the accumulation of fæces by the most effectual yet mildest means. After the removal of the pain, Dr. Smith's favourite practice is to give a well-known pill, consisting of a grain and half of aloes, rubbed up with gum mastick, ipecacuan, and soda, twice a day, combined with a mild bitter infusion; and the practice is very judicious, so long as there is no inflammatory state present, and the pills have the effect of keeping up a moderate and steady action on the large intestine.

"In general (says Dr. S.) a few weeks of well directed care will free the individual from the disease; and it will then be only requisite, that by an occasional dose of the pills he should guard against allowing the cæcum to again become over-distended. Occasionally, however, [and we ought to apprize the reader that the last sentence terminated CHAP. VI. while this begins CHAP. VII.] we meet with cases which do not so easily yield, even to the most admirably directed treatment.—In these cases, *I am in the habit of making use of an invention of my own*, which has the effect of keeping up the evacuations from the bowels and stimulating powerfully, and in a healthy and tonic manner, all the abdominal viscera, including, of course [*of course*], the cæcum and colon." P. 29.

The invention is thus announced:—

"I am in the habit of ordering the patient, on rising in the morning from bed, to have a *douche of cold water* of about half an inch in diameter, and of a very moderate force, (never exceeding a pound or a pound and a half at the commencement,) to be made to play for a period, varying from a few seconds to a couple of minutes, upon the abdomen, and to let the stream be principally directed towards the seat of the disease. Even common dashing of the abdomen from a large sponge, or a stream directed from a moderate height, by means of a watering-pot, divested of its rose, may be made to answer; but a douche from a leathern *hydraulic* tube, having a height of water of three or four feet to supply the force, and a diameter of half an inch is the most certain and complete manner in which it can be applied—Now the effects of this affusion are very remarkable; the bowels are stimulated to action in a very

decided and very satisfactory manner.—If made use of as the patient rises from bed, by the time the toilette and breakfast have been gone through, the bowels will be ready to to act with certainty and with success, and the stools will be both copious and of a satisfactory consistency." P. 31.

SELECTIONS FROM FOREIGN JOURNALS.

ON THE RESPIRATION AND PULSE OF THE OLD.

By MM. Hourmann and Dechambre.

[In No. I. page 233, we have given an analysis of the first part of this memoir, containing a description of the anatomical changes produced in the thorax by age. The second part embraces the modifications in the functions of the thoracic organs consequent on these changes. It must be recollected that two classes of aged females were alluded to, the first containing those who still retained their plumpness, and whose chests were large ; the second, whose chests were contracted, and their whole appearance emaciated.]

1st Class. In an adult female the average admeasurement (by Baudelocque's pelvimeter) of the antero-posterior diameter of the chest during expiration is from six inches and a half to seven inches ; the transverse, on a level with the nipple, is from nine and a half to ten inches ; and towards the base, (level with the eighth rib) from eight inches and four lines, to nine inches ; during a full inspiration the first diameter augments on an average one inch ; the second one inch ; the third one inch, eight lines. In old women of this class, the antero-posterior diameter during expiration is from seven to seven and a half inches ; the superior and inferior transverse eight and a half to nine. The increase in inspiration is much less than in adults, rarely exceeding from four to five lines, and almost equal in the three directions. The second on percussion is sonorous. When lungs advance in front of the heart, the whole of the anterior part of the chest may give a clear sound ; thus obscuring the diagnosis of diseases of the heart and pericardium ; and simulating them if this portion of the lungs becomes indurated. When the liver is thrust down into the abdomen, and drags with it the right lung, the right side of the chest may give a clear sound to the same level as the left, or even lower. The respiratory murmur is distinctly vesicular, but larger, more noisy, less deep, and abundant.

2d Class. Emaciated old women, with contracted chests. As the respiratory organs become worn out, the necessity of employing them diminishes in a corresponding degree. Thus their movements are very unequal : both as to time and duration. During expiration the antero-posterior diameter is from seven to seven and a half inches : the superior transverse from eight to eight and a half ; the inferior transverse from seven to seven and a half ; in a full inspiration the first diameter increases from five to seven lines ; the last two one, two, or three lines at most, and often not at all. Thus in old age the movements of the chest, particularly in the transverse direction, are considerably diminished. The elevation of the sternum is diminished, and the anterior projection of its inferior part is altogether prevented by the circular depression (previously mentioned), and the overlapping of the cartilages of the lower ribs, the effects of stays ; as well as by the ossification of the cartilages of the first and second ribs. Owing to this diminished motion of the bony walls of the chest, the diaphragm often becomes the chief agent in inspiration ; its action is redoubled, and its folds often form depressions on the posterior edge of the liver. The scaleni and sterno-cleido-mastoidei muscles are rendered useless where the spine is much curved ; to remedy which the head is thrown back at each inspiration, so as to put these muscles on the stretch. Expiration is sudden and rapid, as if the whole bony framework fell as a single piece. Forced expiration, however, as in cough and expectoration, is difficult, for the recti, obliqui, and transversales abdominis are relaxed when the senile curvature is considerable.

PERCUSSION.—The sound on percussion is remarkably clear, equal to that of well-marked emphysema when the lungs are in the third type. The sound is modified by situation : thus the region corresponding to the inner half of the clavicle is much less sonorous than the anterior and superior region of the chest, which is owing to the almost constant presence of black or grey indurations of the upper part of the lungs, and to the very arched shape of the clavicle in the old. The sternal region is usually but little sonorous, owing to the diminished size of the lungs : the situation of the heart can therefore be exactly marked out by percussion.

AUSCULTATION.—Where the lungs are of the second type, respiration gives rather a blowing sound than a murmur ; a sound like that produced by expelling the air through the compressed lips : and when the lungs are in the third type, this sound is so increased that it is more like general bronchial respiration. Its intensity is very variable : sometimes heard with difficulty, and the next moment noisy. When one lung is obstructed in any way, as in pneumonia, the respiratory murmur in the sound lung becomes more uniform, and in fact more vascular. The resonance of the voice is loud and noisy, almost bronchophonous : and in some so acute and interrupted as to become vibrating and jerking, as in ægophony.

RELATION BETWEEN THE STATE OF THE PULSE AND THE RESPIRATION.—The examinations were made between half-past six and half past seven in the morning, before the old women had eaten :

some were in bed, others sitting on their beds. Three hundred and twelve were examined, 88 of whom were of the first class, and 214 of the second ; 15 of the first class, and 42 of the second, were excluded, on account of the irregularity of the pulse: this irregularity was in the proportion of 1 to 6. 53 for the first class and 1.509 in the second ; making a difference of 1.44. Consequently there was much less irregularity among those whose organization was most perfect. There remained 255 women, between the ages of sixty and ninety-six.

Sum of their ages 18,960 ; avg. 74.33 years.
pulsations 20,984; 82.29 pulsations.
respirations 5,558; 21.7 respirations

The relation consequently between the number of respirations is as 1 to 3.41.

From this it appears that 82.29 is the mean number of pulsations of 255 aged women, contradicting the general opinion that the frequency of the pulse decreases with age. Thus Sœmmering, Adelon, &c. give seventy pulsations as the average of the adult age, and sixty that of old age. MM. Leuret and Mitivié suspected this error from an examination of seventy-one of the aged inmates of the Bicêtre and Salpêtriere, and these researches on a larger scale confirm it. If, as M. Magendie supposes, there are twenty pulsations on an average every minute, in the adult, the frequency is increased in old age by 1.79 ; a proportion much less than the increase in pulsations. From comparison of the two classes of women another curious fact is obtained, confirming the preceding one.

Eighty-three of the 255 women, belonging to the first class.

Sum of ages 6195; avg. 74.64 years
pulsations 6673; — 80.42 pulsations
respirations 1755; — 21.14 respirations

172 belonging to the second class.

Sum of ages 12,795; avg. 74.21 years.
pulsations 14,311; — 83,78 pulsations ; an increase of 3.31 beyond the first class.

Sum of respirations 3803; average 22.11 ; or an increase of 00.97 beyond the first class.

The relation between the pulse and respiration hardly differs in the two classes.

Thus in the women of the first class who are younger in *organization*, though not in age, both the pulse and the respiration are less frequent than in the second class, who are worn out and decrepid ; proving that senility is the real condition of this frequency.

It may be thought that some error has arisen from taking into the calculation those cases where the pulse was extremely frequent, although the individuals were in apparent health. To decide this point, a table is drawn up dividing the classes into six series, according to the rapidity of the pulse ; from which it appears that in two-thirds the pulse was between seventy and eighty-nine, and in almost one-sixth between ninety and ninety-nine. Again, if those cases are excepted in which the pulse was below sixty and above eighty-nine, that is, very slow or very rapid, 185 individuals remain.

Their average age is 74.38
The average number of pulsations is 76.42
respirations is 20.91

The relation between the respiration and pulse is 1 to 3.65. Thus after making the largest concessions, the frequency of the pulse is greater than, and that of respiration at least equal to, what is considered the average frequency in adults. In the following table the question is examined as to the relation between the respiration and pulsations, in those whose circulation and breathing were disordered. Out of the 255 there were 57 thus affected.

The average age of these 57 women is 66.50
The average pulse 95.17
respirations 27.75

Relation of the respiration to the pulse is 1 to 3.72, thus exceeding the average ratio in the whole number by 0.13 ; and proving the same relation, though less decidedly.

The commonly received opinion that the pulse decreases in frequency in old age is probably owing to instances occasionally occurring in which the pulse is remarkably slow. Thus these authors have felt it at thirty, twenty-nine, twenty-eight, in women whose only disease appeared to be senile marasmus. Generally in old age the pulse attains extreme degrees of slowness, or frequency, but the first is the exception and the second is the rule. The error has arisen from taking the one for the other.

[In a practical point of view the statement here made, that the pulse increases in frequency in old age, deserves much attention. Those who have opportunities of examining the truth of it for themselves, in extensive workhouses, should bear it in mind.]—*Archives Générales de Médecine, Novembre*, 1835.

ON DISEASES OF THE SPLEEN, AS THEY OCCUR IN INDIA.

By J. O. Voigt.

Physician to the Danish Establishment of Frederiksnagor (Serampore).

Chronic diseases of the spleen are so frequent and fatal throughout India, especially in the low marshy provinces of Bengal, that we have good reason to complain of the neglect with which they have hitherto been treated. Most writers on the diseases of warm climates either content themselves with merely mentioning them, or else despatch them in just as unsatisfactory a manner as the authors of general systems of medicine. Even Dr. James Johnson in his excellent work on Tropical Climates, passes them over altogether ; and Annesley's voluminous "*Researches*" and "*Sketches*," contain comparatively little on the subject. Mr. Twining, however, surgeon to the general hospital in Calcutta, has given, in the 3d vol. of the Transactions of the Medical Society of that city, a good treatise on Splenalgia.

The chief forms under which Dr. Voigt observed affections of the spleen to occur were, what he terms, *splenitis chronica*, *splenalgia congestionis*, and *lien ingens*.

Chronic splenitis displays a more or less clearly marked inflammatory diathesis, and is attended with pyrexia, considerable pain, and an uncommon degree of weakness : it chiefly attacks children of European origin, and those of rich natives, as well as persons of a more advanced age who are addicted to a stimulating diet ; and appears to be principally seated in the proper membrane of the spleen. The swelling, in the first stage, is never very great, and often scarcely perceptible.

Congestion of the spleen (or splenemphraxis) shews plain marks of an atonic diathesis, and is not at all, or but to a trifling extent, attended with febrile symptoms ; it does not occasion much pain, but causes a considerable tumour, which occasionally fills the whole of the epigastric and mesogastric regions ; this disease most generally occurs among the natives, and is seated in the spongy parenchyma of the organ.

Enlargement of the spleen often occurs and continues for a considerable period without pain or injury to the constitution ; it does not appear to be attended with any obstruction, and is observed mostly amongst elderly individuals of the natives.

1. *Chronic splenitis* generally commences with anorexia, restlessness, sleeplessness, and a peculiar irritability of mind, which is especially remarkable in children. They gradually lose all desire for play, wish to be constantly carried, hang the head, cry frequently, and manifest the greatest indifference to all that passes around them. After these precursory symptoms have continued for some days, and sometimes even two or three weeks, the essential symptoms of the disease begin gradually to appear. The face becomes pale, lead coloured, or sallow, and the conjunctiva of a pale bluish colour. The skin, especially of the abdomen, communicates a disagreeable sensation of heat and dryness, and the patient falls into a state of weakness greatly disproportionate to the duration and degree of the attack. The pulse is frequent and somewhat hard, and headach, a peculiar uneasiness, slight difficulty of respiration, palpitations, and occasionally pain in the left shoulder, supervene. There is a constant feeling of tenderness and weight in the left hypochondrium, which is increased by pressure, and that often so much as to cause a loud scream. On examining the patient while lying on his back, and pressing with the fingers under the false ribs of the left side, a hard tumour is felt, which is greater or less according to circumstances, but is always of much smaller dimensions than in cases of splenalgia congestionis. The erect posture is uncomfortable to him ; he likes best to lie on his left side, with the body somewhat curved. Although the tongue is moist and clean, he complains of thirst, and, after his meals, of gastrodynia, flatulence, and *ardor ventriculi*. The bowels are very irregular, but generally costive ; the fæces are brown, green, or sometimes black ; and the urine is pale and copious. After an uncertain period, the disease terminates either by recovery, or by passing into other diseases and causing death.

2. *Splenalgia congestionis* is the most usual of the chronic spleen diseases prevalent about Serampore. Its most remarkable precursory symptoms are lassitude, heaviness, a dislike to any kind of exertion, weakness, costiveness, and a sense of heat in the left hypochondrium. These are followed after some time by a tumour in the region of the spleen, which, though tender to the touch, is by no means so much so as in chronic splenitis. On the other hand, its bulk increases to such a degree that it generally occupies the entire of the left hypochondrium, and of the epigastrium strictly so called, and sometimes of the epigastric and mesogastric regions. The skin is dry and cold, and the cutaneous veins of the abdominal region are considerably dilated and present a reticulated appearance. The patient experiences an indescribable lassitude and weakness, together with vertigo ; the lips and gums lose their colour ; and the face becomes dingy, sallow, and cachectic. The bowels are tardy and constipated ; the fæces dark coloured ; the urine pale and copious ; the pulse small and feeble ; the tongue generally clean and moist, and the appetite good and sometimes even voracious ; but the process of assimilation goes on very imperfectly. In proportion as the strength diminishes, the flatulence, anxiety, and irritability increase ; the extremities are reduced to skin and bone ; cough and dyspnœa set in, and the feet become œdematous. The pulse is sometimes quickened towards evening, and the patient then suffers from an insupportable inward heat, which prevents sleep. He cannot bear to lie upon his right side, and sometimes not even on his back, but finds lying on his left side with the body curved the least uneasy posture. When walking, he generally bends to the left, and supports the left hypochondrium with his hand. The disease in females is generally attended with amenorrhœa. These symptoms, which, with a few exceptions, appear in every case of simple congestion of the spleen, continue till the disease is removed, or terminates in others, and eventually in death.

3. *Enlargement of the spleen* is generally observed amongst elderly natives, and is undoubtedly in most cases a sequela of mild intermittent fevers. The tumour is soft, not of very great magnitude, bears pressure, and produces no inconvenience except a sensation of weight. It does not appear probable that there can be any obstruction existing in such cases, which probably are of the same nature as those mentioned by Regia (Specim, observat. anat. and pathol. Ticin. 1784), in which, according to that author, the vessels can be beautifully injected.

The cachexia connected with *splenalgia Bengalensis* frequently manifests itself by a malignant ulceration, the disposition to which is so great that leechbites and blisters occasionally give rise to foul or phagedenic ulcers, which, in cases where mercury has

been employed, and the patient is in a swampy situation and debarred from free access of air, occasionally terminate fatally. *Stomacace* also, both simple and scorbutic, often occurs among the poorer natives; and, although most authors recommend mercury in splenalgia, it is an indisputable fact that even a very small quantity (a few grains for instance) generally occasions a profuse salivation, and occasionally so violent a *stomacace mercurialis*, that mortification sets in, the teeth drop out, the bones become carious, and death ensues.

We have given the description of the symptoms thus at length, as well because it is the most circumstantial that we have met with, as that it may have the effect of inducing the profession in those countries to pay more attention to diseases of the spleen than they have hitherto done. From contemplating a disease in its most exquisite form, as existing where circumstances are most favorable to its development, we are the better able to judge of its pathology, and of it bearings in various respects; and it is not unlikely that, even in this country, many symptoms, generally attributed to dyspepsia, &c. may arise from a milder form of the chronic splenitis above described. We learn too that this disease may exist to a considerable extent without producing any very perceptible tumour; and on the whole it is not unreasonable to conclude that a chronic morbid action, sufficient to produce considerable uneasiness and constitutional disturbance, may be going on in the spleen, for some time, without giving rise to any symptoms of such a nature as to lead us to suspect its seat to be in the organ.

As the author, on account of the prejudices of both natives and Europeans, has not had the opportunities that English medical men attached to the army or to hospitals in India have enjoyed, he is obliged to refer to them for a description of the appearances observed in the spleen after death. Proceeding next to the etiology of the disease, he contradicts Annesley's assertion respecting its comparative infrequency in India, and states, that, at least in Bengal, the case is quite the reverse, both according to his own experience and that of Mr. Twining. The predisposing causes he mentions are: 1, season; splenalgia, though occurring at all times of the year, being most prevalent towards the conclusion of the periodic rain, and at the commencement of the cold season: 2, age and sex; children and delicate young men being most subject to it, while elderly persons, and women after puberty, are comparatively exempt: 3, low swampy situations, overgrown with jungle: 4, perhaps sol-lunar influence.

The most usual occasional causes are: 1, tedious remittent and intermittent fevers: 2, want of exercise and of proper clothing, unwholesome diet, and intemperance in eating; these causes often produce an idiopathic splenalgia among the natives: 3, abuse of stimulants, especially arrack: 4, opium eating: 5, everything that has a tendency to debilitate the system in general, and the digestive system in particular; such, for instance, as depressing passions, &c.: 6, external injuries, such as contusions from falls; but this cause does not often come into play.

In speaking of the proximate cause of splenalgia, there is a remarkable coincidence in opinion between the author and Dr. Hodgkin, in his Essay on the Uses of the Spleen. After stating that it has been proved by the experiments of Defermon on animals, that the spleen is capable of admitting a considerable variation in its size, and that its vessels can bear to be greatly dilated for some time without producing any local or general obstruction, he proceeds to observe that it is evident that, under particular circumstances, in the cold stage of intermittent fever for instance, there is a large quantity of blood thrown in upon the abdominal viscera, which would have a most destructive effect upon the more important organs, if the spleen, from its spongy and elastic texture, were not adapted to serve as a temporary reservoir for a considerable portion of the superabundant fluid: and that repeated and prolonged congestions of this description must, in persons who have been exposed to miasmata and other debilitating causes, produce a state of irritation of the organ which may terminate in chronic inflammation, or in an incurable induration.

Treatment. The disease is always difficult to cure, mostly very obstinate and frequently fatal. Accordingly Dr. V. describes, at a length commensurate with the difficulty and importance of the subject, the treatment that has been found most successful in its different forms; and makes some useful practical remarks on the inconveniences attending other modes that have been proposed by different individuals: the use of mercury, for instance, he most strongly reprobates. The measures he recommends, besides attention to the diet, &c., are to attack the inflammatory symptoms, when such are present, by leeches, gentle purgatives, tepid baths, and the application to the region of the spleen of a cloth dipped in nitro-muriatic acid considerably diluted with water, and covered with an emollient cataplasm; both to be frequently changed.

The febrile irritation and local inflammation once removed, the next indication is to endeavour to diminish the bulk of the spleen. This is most likely to be effected by the continued use of purgatives combined with tonics, and by certain topical applications. He considers the preparations of iron in general, and the sulphate more especially, to have some specific influence on the spleen; but advises caution in its application, as an overdose readily produces cardialgia, gastrodynia, vomiting, and diarrhœa; and it is absolutely contra-indicated where there is any febrile irritation present, as well as in hepatic, pleuritic, and dysenteric complications. The other internal remedies are aloes and myrrh, combined with senna, gentian, carminatives, diuretics, and diaphoretics; nitric acid; and tartar emetic in small doses. The topical applications are, friction with the flesh-brush; nitro-muriatic epithems; small blis-

ters; stimulating liniments to the abdomen; and moxas.

The treatment of chronic splenitis or of congestion of the spleen, difficult enough when they are simple, is rendered still moe so by their complication with other diseases. For instance, in *splenalgia hepatica*, mercury, though indicated for the liver, cannot be employed, as it increases the spleen disease.

In another part of the paper Dr. Voigt makes the following remarks on the terminations of splenalgia. "In Bengal, it rarely runs on to suppuration, but, when not fatal, it generally terminates in induration, if not cured in time. The febrile symptoms then disappear, and the pain in the left hypochondrium is much diminished, but the tumour remains and becomes hard and distinct. The health improves, and, with the exception of costiveness, a sensation of fulness and weight under the left false ribs, a dry cough, some dyspnœa, and occasionally a slight pain shooting to the scapula, the patient feels pretty well, and may live on for many years in that condition. He is however generally predisposed by it to fever, liver complaints, dysentery, dropsy, and cholera, by some one or other of which he is at last carried off. Splenalgia, especially when complicated, sometimes runs its course very rapidly, and may terminate in death in three weeks or a month. Œdema of the feet and legs, ascites, dysentry, ecchymoses, a malignant stomacace, and singultus, are the general precursors of death in subacute cases, whilst obstinate diarrhœa and hectic close the scene in the most usual form, splenalgia congestionis. Persons who have once had chronic disease of the spleen are very liable to be attacked by it again.—*Bibliothek for Læger*, *No.* 2, 1334. Copenhagen.

ON THE USE OF THE BALLOTA LANATA (LINN:) IN THE CURE OF RHEUMATIC, ARTHRITIC, AND GOUTY AFFECTIONS.

By Professor V. L. Brera.

After some questionable remarks on the pathology of rheumatic and gouty discases, which the author considers to arise from "a supersaturation of the blood and fluids with a morbific matter," and which is relieved by the deposition of its superfluous portion in various parts of the system, under the form of stone, gravel, and other calculous concretions, the author comes to the conclusion that, by the removal of this matter as fast as it is generated, the indications of cure will be fulfilled. He therefore recommends the use of such remedies as free the system from its load by increasing the secretions from the skin, kidneys, &c., and he considers that the ballota lanata is "the most efficacious plant to supply the blood with what is required to relieve it from this morbid supersaturation, and to prevent its reproduction." This plant was found by Pallas and Gmelin in [illegible] in Siberia for the cure of dropsy. Rehman, a Prussian physician, introduced it to the notice of Brera, and supplied him with the genuine plant, which he has found of the greatest service in removing by the kidneys dropsical effusions dependent upon visceral congestions.

Finding that many of these cases were connected with gout and rheumatism, he tried it in those diseases also: in which its effects surpassed his expectations; and several other physicians have met withsimilar success from its use. The results of a number of cases are mentioned; but the following is the only one the details of which are given.

The patient was a sapper and miner, who, from exposure to cold while heated, became affected with most excruciating pain in the pectoralis and mastoid muscles of the right side, and radiating from thence to the dorsal and lumbar muscles. By the use of saline purgatives and diaphoretics, fomentations, prussic acid washes, and oil of hyoscyamus liniments, with tepid baths, the pains were alleviated, without being entirely removed. In the summer of 1831, after two years' illness, the disease increased in violence, and the pains extended to all the joints and to the muscles of the thighs, so that he was unable to raise his arms, close his hand, or move his legs or feet. On September 3d, he began to take the ballota in decoction, made by boiling half an ounce in a pound of water down to eight ounces; the whole to be taken daily. The night following he could not sleep for a burning heat over his body, which about daybreak terminated in a profuse perspiration accompanied by some delirium. With the appearance of the perspiration the pains quite ceased, and he remained at ease the whole of the 4th. He repeated the medicine at night, and the sweating and delirium were more violent than before, but lasted a shorter time. The remedy was repeated the third day, and that night the (critical?) symptoms were much abated. He next experienced a constant and earnest desire to make water, of which he passed a great quantity, fetid, and of a deep reddish orange, and depositing an abundance of sand of the same colour. The pains diminished so much that on the fifth day he got up, and went out of doors on the eighth. The same day the dose of the ballota was incrcased two drachms, and he continued to take the eight ounces daily, in two doses. The amendment now proceeded more rapidly, so that, on the 20th September, the seventeenth day of treatment, he had recovered the full powers of his body, with an appetite which he had not felt for above a year.

The ballota lanata is indigenous in that part of Siberia which adjoins the Chinese empire. Gathered while flowering, it is brought by the Russians in bales covered with furs. The whole plant is used in medicine. Its smell resembles that of tea; the taste is sharp and bitterish. The cold infusion is not quite clear, and has a greenish yellow colour. The plant imparts all its active properties to weak spirit.

Decoction is the best form of this medicine. It is made by boiling for a quarter of an hour in an unglazed vessel half an ounce of the plant, with as much water as when strained shall amount to eight ounces; this is to be taken at four doses in the twenty-four hours: of course the strength of the decoction must be regulated according to circumstances. It is essential that it should be the Siberian ballota, the effects of that cultivated in gardens being far inferior.

The diuretic powers of the ballota lanata are confirmed by the results of three cases related in the same journal by Dr. Luzzate. The first was anasarca after rheumatism; the next was anasarca after four bleedings for acute bronchitis, in a patient seventy-three years old; the third was rheumatism after delivery, with (milk?) fever.—*Antologia Medica.* No. II. Febbrajo, 1835.

ALUM IN TYPHOID FEVERS.

Professor Fouquier, one of the physicians of La Charité, is in the habit of prescribing alum, with considerable success, in certain cases of typhoid fever. When the inflammatory symptoms which generally mark the commencement of fever are succeeded by the symptoms peculiar to typhus, such as weakness of the pulse, fixed and dull expression, diarrhœa, acrid heat of the skin, &c., alum is advantageous. If inflammatory symptoms should re-appear, its use is again counteracted; so it is if the bowels (which rarely happens in the second stage,) are constipated; but with these exceptions it may be confidently given, although the most serious nervous symptoms are present. In the stage of collapse, when there is excessive prostration of strength, colliquative diarrhœa, sordes covering the mouth, and fœtid excretions, alum, either alone or with other remedies, acts very beneficially. The diarrhœa diminishes, the tongue becomes moist, and the strength improves. The dose is twenty-four grains daily for three or four days, then increased to half a drachm, and after the same interval to a drachm: when its good effects have been produced, the dose is to be diminished in the same proportion. Gum-water is a suitable vehicle: it may be given in pills, but a solution is preferable.—*Bulletin général de Thérapeutique*, Novembre, 1835.

ON THE TREATMENT OF CROUP WITH SULPHATE OF COPPER.

By K. G. Zimmerman, M. D.

The sulphate of copper was first recommended in croup by Hoffmann, (1821;) who prescribed it in the dose of a quarter to half a grain every two hours, and during sixteen years did not lose, according to his own statement, a single patient. Serlo treated from forty to fifty patients with sulphate of copper, and four only died: after venesection, he gave three or four grains as an emetic; following this with a quarter of a grain every two hours. Such was also the treatment adopted by Dr. Zimmerman, except that he generally applied leeches, and only bled from the arm when inflammatory symptoms ran high. He gave the sulphate of copper to fifteen children labouring under well-marked symptoms of croup; and, although the disease in some was very intense, in others far advanced, only two in the fifteen were lost.

Cases. 1. A boy, aged three years, was seized with symptoms of croup, March 9th, 1830. He had had a cough and hoarseness for several days: after exposure to a north-east wind, the symptoms became more severe, and on the evening of the 9th respiration became "crowing." Twelve leeches were applied to the neck, and a quarter of a grain of the sulphate of copper, with sugar, was ordered every two hours. On the 10th, twelve more leeches were applied in the morning. The danger increased, so that in the evening the dose of copper was augmented to half a grain, and twelve more leeches were applied.—11th. One grain of sulphate of copper was given evey two hours.—12th. The child died at nine o'clock in the evening, on the fourth day of the disease.

2. A boy, six years old, seized on the 19th of March, took a quarter of a grain of sulphate of copper every two hours, till, after repeated vomitings, all the symptoms of croup disappeared on the 20th. On the 23d, the fifth day of the disease, the boy was perfectly recovered.

3. A stout boy, one year old, was attacked by croup on the 4th of April: leeches were applied to the neck; a quarter of a grain of cupri sulph. was given every two hours, and, although this was followed by vomiting every time, eight doses were administered, when the respiration was relieved. The hoarseness gave way on the 13th, the tenth day of the disease.

4. A blond, scrofulous boy, aged three years, had an attack of croup on April 13th: there was a sudden invasion of laryngitis, and the cough was crowing rather than barking. Six leeches over the trachea, and a quarter of a grain of cupri sulph. every two hours, were ordered: each dose excited vomiting, but the disease did not yield till the 15th, the fourth day. The hoarseness continued till the eighth day of the disease, when the recovery was perfect.

5. A strong boy, four years old, seen at the commencement of the disease, recovered by taking the sulphate of copper, without previous bleeding. The medicine was, as usual, followed by vomiting.

6. A lively boy, aged six years, seized on the night of the 27th of April, 1833, was not seen till the evening of the 28th, when the symptoms were very intense,—those of laryngitis and tracheitis combined. Venesection to three *tasses* (cups), twelve leeches, and sulph. pupr. five grains, were prescribed immediately. At eleven o'clock, sixteen

more leeches and a blister were applied; cupr. sulph., a quarter of a grain, was administered every two hours: the first powder was followed with relief. On the 30th, the third day of the disease, all the symptoms, except the hoarseness, were gone, which only remained till the ninth day.

7. The same boy had another attack of laryngitis on the 12th of January, 1834; he recovered, under the same treatment, on the 16th.

8. April 27th he had a slighter attack, cured by cupr. sulph. alone.—30th. He was quite well, and has not had another attack.

9. A weakly boy, aged six years, had been unwell a week, probably with measles; had a decided attack of croup on the 11th of October, 1833. On the 13th, twelve leeches were applied to the neck; four grains of the sulphate of copper were prescribed, and given afterwards in half-grain doses: in the evening, twelve more leeches and an emetic were prescribed. The cupr. sulph. was omitted on the 14th, and five of sulphur were prescribed, &c.; the copper was resumed in the evening. He died on the evening of the 15th, the sixth day of the disease. The trachea and larynx were examined: the mucous membrane was pale, soft, and a few of the vessels were injected; the bronchi appeared filled with a purulent mucus. A younger brother had measles five days afterwards.

10. On the 20th of April, 1834, (a year afterwards,) this brother, now four years old, had an attack of laryngitis. Leeches and the sulphate of copper were employed, and in a few days he was restored.

11. A red-haired strong boy, four years old, seized with croup at 10 P. M. on the 28th September, took the sulphate of copper, and had leeches applied twice: he recovered on the third day of the disease.

12. A delicate blond girl, four years old, had a sudden seizure of laryngitis, from which she recovered in twenty-four hours, after taking four grains of sulphate of copper.

13. A child, one and a half year old, recovered on the second day, after six leeches, cupr. sulph. four grains as an emetic, and a quarter of a grain every two hours, had been employed.

Dr. Zimmerman concludes that the sulphate of copper is a very valuable remedy in croup, particularly when conjoined with leeches and blisters. Where there are bronchitis and tracheitis, calomel is preferable; but, in simple laryngitis, the sulphate of copper is advantageous in the majority of cases. —*Hufeland and Osann's Journal*, p. 38—1, B. 2. 1835.

ON TURPENTINE IN SCIATICA.

By M. Ducros, Jun.

M. Ducros has frequently found sciatica, which had resisted the ordinary means, yield to enemata, containing a large dose of the essential oil of turpentine. He has related several successful cases. In one instance, the pain yielded to one enema, containing an ounce of the oil of turpentine: in another, six lavements were administered in three days, when the neuralgia gave way; in a third, the quantity was raised to two and a half ounces in each lavement; in a fourth, the lavements were continued for a fortnight. [We know nothing of the practice ourselves.]—*La Lancette Française*, No. 110, 15 September, 1835.

ON PURULENT METASTASIS.

By Dr. R. Froriep.

Dr. Froriep is of opinion that the materials going through the capillaries to the blood are in a state of solution, and do not contain globules; for the porosity of the membrane is not sufficient to permit the passage of globules of pus: so that the appearance of such globules must be co-existent with the effusion of matter. Hence it is incorrect to suppose that a direct discharge of globules of pus takes place into the sac of the pleura, the peritoneum, or the cavity of the arachnoid, as is said, in purulent metastasis; and it is equally erroneous to imagine that, when pus ceases to be secreted from the surface of a sore, it has been transported in the current of the circulation, and deposited in some internal organ, where inflammation is going on.

The mechanism of the formation of the so-named purulent metastasis is as follows: if, during the presence of external suppuration, by any contingency, inflammation comes to be kindled up in some internal organ or other, in consequence of the pre-existing affection, it is prevented from displaying the ordinary characteristic train of symptoms; but attaining imperceptibly its full development, ultimately gains the ascendancy of the previously existing suppurative process, in which the discharge is suspended, while the vicarious inflammation, acting upon an organism alreadty enfeebled by disease, pursues a rapid course towards a purulent termination.

In support of this mode of explanation, Dr. F. refers to what has been frequently observed, under such circumstances, on post-mortem examination; particularly to those cases where no deposition of pus is discoverable,—merely a serous exudation, or simply the phenomena of incipient inflammation without the effused products.

In accordance with this view, it is plain that a tonic and stimulant treatment, for the purpose of compelling the pus to flow internally, as is vulgarly said, can only serve to augment the mischief commencing. The measures pursued must be antiphlogistic, proportioned to the strength and constitution of the patient. —*Wochenschrift f. d. Heilkunde*, No. 8. *Berlin*, 1834.

ON THE PROPER TEMPERATURE OF SINAPISMS.

The volatile oil, on which the stimulating properties of the powdered seeds of mustard depend, is not disengaged or formed unless water is added to them; but it has been imagined that very hot water was preferable to cold. M. G. Fauré, sen. has proved, by many careful experiments, that this is not the case, but that water, when heated to 190º (F.) and upwards, prevents the disengagement of the volatile principle of mustard: consequently, that sinapisms should be made with cold water, and for foot-baths the powdered mustard should be first mixed with some cold water, to which boiling water should be added, to raise it to the necessary temperature. By one of those coincidences which are not uncommon, the same facts have been simultaneously discovered by MM. Geiger and Hesse in Germany. The most satisfactory rationale is, that the sudden heat coagulates the vegetable albumen which forms a coating to each molecule, that prevents the water acting upon it. All causes which coagulate albumen produce the same effect, such as alcohol, strong acids, &c. Cold water, on the contrary, dissolves the vegetable albumen.—*Journal de Pharmacie, Septembre*, 1835.

ON SALICINE AS A SUBSTITUTE FOR QUININE.

[The following cases were treated at the medical *clinique* of Prague during the years 1832 and 1833, and are reported by Dr. A. M. Pleischl, Professor of Chemistry. As they are authentic and satisfactory illustrations of the therapeutic agency of a remedy but little known in this country, we give an abridged translation of them.]

Case I. The patient, a weakly girl of fourteen, was attacked with ague on the 12th of May, 1832. As there were symptoms of congestion of the liver and spleen, leeches, &c. were employed; and, on the 26th, the salicine was given in the dose of two grains every two hours; but as this did not suffice, after the third attack the dose was increased to four grains every two hours; after which there was no paroxysm. As the liver and spleen were still tumid, the salicine was continued, together with a decoction of tamarinds containing cream of tartar; poultices were also applied to the parts, and the patient was discharged cured on the 16th of July.

Case II. A strong female servant, aged twenty-two, and of a sanguine temperament, was attacked by convulsions during the sixth month of pregnancy, and then by a tertian ague. She was treated with the sulphate of quinine in very large doses, but without permanent advantage. The quantity given at last was five grains every hour, with one-sixth of a grain of ipecacuanha. An intermittent hematemesis now set in; and, as this, though mitigated, was not cured by opium, it was thought right to omit the quinine, and give salicine instead. The dose was five grains every three hours; and, although there were still three fits of hematemesis, the last two were hardly worth mentioning, and the patient was cured of her obstinate intermittent. For fear of a relapse, the salicine was continued for several days: the patient took in the whole about six drachms.

Case III. A youth of eighteen, was cured of a tertian ague, under which he had laboured for three weeks. After an interval of a fortnight, he had another attack, which his physician quelled by an emetic. Ten days had scarcely passed away, when he was attacked for the third time. The paroxysms were irregular, and, as opium was given in vain *in scopum prævertentem*, four grains of salicine were ordered to be taken every four hours during the day of intermission. The next attack was anticipatory, being an hour earlier than its time; there were no premonitory symptoms; the cold stage was much shorter and milder, lasting barely half an hour; the hot stage lasted four hours, and was succeeded by a profuse sweat of three hours' duration. The salicine was continued. The second paroxysm consisted of a rigor, followed by gentle heat of scarcely fifteen minute's duration, and a sweating stage of three hours. This was the last fit, and there was no relapse.

Case IV. A robust servant girl, aged twenty-two, had suffered for several months from a violent cough, which tormented her especially before daybreak. She then had a gastric tertian fever of an anticipatory type; and, having committed an error in diet during her convalescence, had a relapse. The gastric symptoms being now quieted, but the fever remaining, she was ordered four grains of salicine three times a day, and took three of these powders on the day of intermission likewise. The next paroxysm was slight, and was the last. She took in the whole fifty-six grains of salicine, and had no relapse afterwards.

Case V. An active servant girl, aged twenty-four, with a proclivity to congestions and inflammations, after an error in diet was attacked with a tertian ague complicated with considerable gastric symptoms. On each day of fever there were two paroxysms; the first took place on the 9th of May, and on the 20th the patient entered the medical *clinique*, having had six days of fever, and twelve paroxysms.

While measures were taken against the gastric symptoms, the fever made its attack on the morning of the 21st, the evening paroxysm was slight and transient. The patient was now ordered to take three grains of salicine three times a day: the ague did not return, but the salicine was continued for a few days to guard against a relapse, and with the desired effect.

Case VI. A servant, aged thirty-nine, who was labouring under acute ascites, was attacked during its course by a headach, which returned at the same hour every day. It was a pressing and tearing pain in the frontal and temporal regions. The patient complained besides of heat in the head, palpitation, and

exhaustion. The skin was very hot, and the pulse somewhat quickened, but no other symptom of fever was present. Four grains of salicine given in the evening, and the same quantity the next morning, made the subsequent attack very trifling indeed; but still the remedy was repeated once more. The patient remained free from headach for five days, and then had another paroxysm, which was subdued by salicine, as before. Five doses, of four gains each, proved sufficient to master this intermittent headach, and prevent any relapse.

Case VII. A servant girl, aged twnety-eight, who had twice suffered from ague, which had left a tumid liver, was attacked with very violent headach during the course of an *Impetigo erasipelatodes*. It returned every day at the same time, and lasted for six hours. The salicine, which had shown its efficacy in this form of disease, was given in five-grain doses in the evening and in the morning before the paroxysm. There was one more paroxysm, and afterwards a mere shadow of one, and the two powders having been again administered, the headach returned no more.

Case VIII. The patient was an athletic coachman, aged thirty-six, and was afflicted with intermittent face-ache. The pain followed the ramifications of the ophthalmic portion of the fifth pair of nerves. He had suffered from this frightful disease twice before during the last six years, and this, the third attack, was owing to taking cold after recovering from the influenza. At seven o'clock every morning, the following precursory symptoms made their appearance: formication, following the course of the above-mentioned nerve on the right side; anxiety; general increase of warmth; exhaustion, and throbbing headach. There soon came on the most violent cutting, tearing, and pricking pains, particularly in the course of the frontal nerve, and the pain gradually extended itself over the whole right half of the face. The patient tossed about in his agonies, and had a horror of being touched, especially above the eyebrows, and even avoided speaking, as it increased his pain. He complained of transient stabbing pains in his eye, and it seemed to him as if the eye was pushed out of the orbit; the intolerance of light was so great, that he closed his eyelids almost convulsively, and the pain was unbearable if they were opened by force; in addition, the secretion of tears was increased, and the paroxysm was accompanied by perfect blindness, which gradually went off afterwards. The whole face was distorted and flushed, with an increase of *turgor*; the pulse, too, was somewhat quickened, and the skin hotter than usual, but no other disturbance of any system. The symptoms continued to decline till towards noon, and in the afternoon the patient was quite well. Leeches had been applied to the right temple, and an anti-rheumatic regimen adopted at the patient's dwelling, but without success. The patient being now in the practical school, the salicine was administered; four grains being giving in the evening, and four more in the morning before the attack. After two paroxysms the doses were doubled. The next paroxysm was mitigated both in severity and duration; yet, with the hope of preventing the following paroxysm entirely, three eight-grain doses were now exhibited, one at eight in the evening, one at six in the morning, and one just before the usual hour of the attack. Some slight pain still remained, and therefore the quantity of salicine was increased to half a drachm divided into three doses, which were taken within twenty-four hours. A more violent paroxysm followed, upon which two scruples were given, which prevented any farther attack. The patient left the hospital perfectly cured.

These cases are remarkably, satisfactory, and would seem to show (the second especially) that salicine is far from being a mere substitute for quinine. Dr. Pleischl enters into some details concerning the prices of salicine and the sulphate of quinine, and observes that the latter is more than twice as costly as the former. He concludes by asserting, that, even if salicine were much the dearer of the two, it would be better to use it, because it is of home manufacture, and can be got in war as well as in peace. —*Medicinische Jahrbücher des K.K. ö. Staates*, 1835.

CASE OF POISONING BY ARSENIC, SUCCESSFULLY TREATED BY THE HYDRATED TRITOXIDE OF IRON.

By M. Geoffroy.

F., æt. 36, hairdresser, during an attack of delirium tremens, took from his desk a paper which contained arsenic, threw the poison into a glass, poured water on it, stirred it up with his finger, and drank it. Finding that some of the poison remained in the glass, he added more water, and was about to drink it, when one of two persons who were in the room, wishing to see what he was drinking, looked at the paper from which he had taken the powder, and seeing that it was marked arsenic, endeavoured to prevent his drinking it, but did not succeed; and he not only swallowed the liquid, but put into his mouth, with his finger, the powder which remained in the glass. M. Geoffroy arrived immediately afterwards, and, on discovering that arsenic was contained in the paper, ordered several glasses of sugared water to be given immediately, and procured, as soon as possible, some hydrated tritoxide of iron. In twenty minutes this was obtained, and four or five pints of warm or cold water, charged with it, were given in a quarter of an hour. This produced copious vomiting and a large stool. For the next seven or eight hours this treatment was continued, and the patient vomited and was purged three times. There was neither colic, heat in the throat, nor any symptom of poisoning; he complained of cramps in the fingers, and during the whole time was delirious, talking and gesticulating. The quantity of drink was then diminished: he slept during the night, and in the morning appeared well.

It was ascertained that he had swallowed a drachm and a half at least of white arsenic. From twenty to twenty-five pints of water had been given, in which was suspended the oxide of six ounces five drachms of the sulphate of the tritoxide of iron.

[This is a valuable case, as there was no doubt of the enormous dose of poison taken.] —*Journal de Médecine et de Chirurgie pratiques. Septembre*, 1835.

HYDRATED PEROXIDE OF IRON AS AN ANTIDOTE TO ARSENIC.

MM. Bineau and Majesté, of Saumur, relate the following cases, to prove the efficacy of the hydrated peroxide of iron as a counter-poison to arsenic in the human subject. On the 13th of August last, about two o'clock, five little girls, on leaving school, ate part of a cake, containing one-fifth of its weight of white arsenic, which had been prepared to kill rats.

L. D., æt. 7, who had eaten a piece weighing about two drachms, had, half an hour afterwards, pain in the throat, a sensation of strangulation and vomiting, succeeded by pains in the belly, great thirst, faintness, incessant restlessness, and spasms. Dr. Bineau saw her at four o'clock: she had then vomited five times, and rejected sugared water and milk which she had swallowed. He gave her one grain of tartar emetic, which produced vomiting and two stools. In an hour he had prepared the tritoxide of iron, and by nine o'clock he had given five ounces, in divided doses. During this period she vomited five times, and had one black fætid stool: there were stupor and slight convulsions of the limbs. At ten o'clock these symptoms were relieved; she slept quietly, and was well the next day.

M. G., æt. 5½, swallowed about three drachms of the cake, and a quarter of an hour afterwards vomited. Between this time and five o'clock she vomited twenty times, and rejected all fluids. After vomiting, faintness and depression, followed by extreme restlessness, pain over the whole body (particularly in the belly and legs), cold perspirations, livid face, great thirst. At four o'clock there was great and constant stupor, without loss of intelligence. At five o'clock, M. Bineau administered five or six drachms of the hydrated tritoxide of iron, and repeated the dose frequently at first, and gradually increasing the intervals until ten o'clock. During this time she vomited only three times, and the pain ceased; but there was constant and alarming stupor and depression. At ten o'clock the pulse rose, and at four she slept naturally. In the morning she had two stools. No subsequent symptom.

The other three cases were treated by M. Majesté.

Marie B., æt. 7, and Louise, her sister, æt. 5, each ate about two drachms of the cake. At four o'clock M. Majesté saw them: the face of the eldest was contracted, pale or livid, eyelids injected, great thirst, very hot skin, pulse 120, belly tympanitic and painful, particularly the epigastrium, general depression, and constant vomiting and purging, since the poison had been taken. The symptoms of the younger were rather milder. M. Majesté returned to his dispensary, and in less than an hour prepared twelve ounces of the hydrated tritoxide of iron, and he gave to each two ounces at four doses, in twenty minutes. The vomiting ceased, but returned in an hour, when he gave two ounces more at longer intervals, and a lavement with half an ounce. At eight o'clock the vomiting returned with colic, and an ounce was given to each, with half an ounce in a lavement: the vomiting ceased, and did not return. They passed a good night. With the exception of some little intestinal irritation, and an eruption in the eldest, which yielded to simple treatment, there were no other symptoms.

The other child, aged 9, was less violently affected. The vomiting ceased on taking the antidote, and in eight hours after the attack all danger was over.

REMARKS.—The remedy was prepared in the following manner:—One ounce of iron filings, with four ounces of nitric acid, and four ounces of muriatic acid, were introduced into a large glass vessel, and subjected to a gentle heat until the iron was dissolved; to this solution sixteen ounces of cold distilled water were added, and after some minutes the metal was precipitated by introducing two or three ounces of liquid ammonia. The vessel was then filled with common water, agitated, and the whole filtered. This left about twelve ounces of the hydrated tritoxide of iron. A teaspoonful of this weighed about an ounce. The process occupied about an hour, and it was immediately repeated. Its action as an antidote was evident. The dose in each case was very large, above thirty grains of arsenic; and, although vomiting took place, yet a much smaller quantity has been often known to kill, although there was vomiting. The symptoms were always immediately relieved by the iron. The antidote itself appears harmless, as from four to six ounces were given to each child without any ill effects; and, as this is the case, it is advisable, even long after the poison has been taken, to estimate the quantity rather by its effect on the symptoms, than by any proportion to the poison. It is advantageous that this antidote is tasteless.—*Journal des Connaissances Médico-Chirurgicales, Novembre*, 1835.

FUMIGATIONS IN HOOPING-COUGH.

Dr. Dohm, of Heide, in the duchy of Holstein, has accidentally discovered a remedy for hooping-cough, that promises to be of considerable use in that too-often obstinate and dangerous disease. Two of his own children, a boy and a girl, (the former one,

and the latter three, years old,) had been suffering from hooping-cough for between two and three months: during which time several remedies, including belladonna, had been tried in vain. The paroxysms were very frequent and extremely violent, so that the fæces and urine used sometimes to be expelled involuntarily. An accident of this kind occurred one evening during the absence of the father; and, to remove the ill smell thereby occasioned, the bed-room was fumigated, and that to such an extent that the child was enveloped in the smoke. Contrary to the expectation of the doctor, the child had not another attack that night; the cough became much milder, and the repetition of the same treatment soon cured it. This encouraged him to try it in other cases, and he invariably found the paroxysm greatly relieved by it, if not completely stopped. The fumigation was made with the common *species fumales* of the Pharmacop. Slesvico-Holst. (Olibani libr. duas, Benzoes, Styr. Calamitæ, sing. libr. dimid., Flor. Lavendul., Rosar. rub., singul. unc. quatuor.) He [we think, very justly,] considers the benzoin to be the most efficient ingredient.—*Pfaff's Mittheilungen, 1ste Jahgr., 1 und 2 Heft.*

TREATMENT OF SCALD HEAD, (TEIGNE, FR. PORRIGO.)

By Baron Alibert.

The hair is cut as close as possible, and the head is washed for some time with a solution of carbonate of soda, or infusion of walnut leaves. An ointment, containing one drachm of soda to an ounce of lard, or two drachms of soda if the hair is thick, is then rubbed in, and the head covered with a piece of blotting paper. Mild bitter infusions are given internally; and, if it is suspected that the parents have a syphilitic taint, antiscorbutic medicines with mild mercurials. If the soda is inactive, it may be replaced by potash. In some cases, an ointment made with the burned leaves of belladonna or stramonium, or the same mixed with water, removes the disease.

[Those affected with scald head in the dispensaries and hospitals of Paris have been put by government under the care of two brothers, named Mahon, who have cured above 50,000 cases in these public establishments. They begin by cutting the hair short, (to within two inches of the scalp,) and after removing the scabs with emollient poultices, they wash the head with soap and water for several days, until it is very clean. They then apply a depilatory ointment, which removes the hair slowly and without pain, and sprinkle the head with a powder which forms the basis of the ointment, taking care to keep the scalp very clean. The composition of this ointment they keep secret. M. Rayer has endeavoured to supply its place with one consisting of an ounce of prepared chalk, two drachms of subcarbonate of potash, and one drachm of powdered carbon, mixed with lard; the quantity of which is to be increased or diminished in proportion as the scalp is more or less inflamed. M. Biett often prescribes the following lotion instead of the depilatory powder:

R. Sodæ Sulphur. iij.; Saponis Castil. ℥ ss.; Alcohol, ℥ij.; Aquæ Calcis. lbj. Misce, fiat lotio.

M. Giscard, an army surgeon, employs successfully this ointment:

R. Axungiæ, lb. ij.; Sulphuris, ℥ ij.; Pulv. Carbonis, ℥ viij. M. fiat ung.

After shaving the head, he directs a layer of this ointment to be applied over it, to be washed off two or three days afterwards with a solution of black soap. This application, repeated five or six times, has cured the most complicated cases.]—*Journal de Médecine et de Chirurgie pratiques, November*, 1835.

ON BALSAM OF COPAIBA IN GONORRHŒA.

By M. Ratier.

M. Ratier adopts the plan of treating gonorrhœa, which is very general in this country, by means of copaiba in the early stages. A modification he advises may be very useful in some cases,—that of exhibiting the balsam as an emulsion in an enema, when it disagrees with the stomach. He finds that the action of copaiba is impaired by any quantity of fluids; he therefore gives it on sugar or in a teaspoonful of wine, and recommends the patient to drink as little as possible. He prescribes a mild and nutritious diet, and forbids stimulants.—*Bulletin général de Thérapeutique, Septembre*, 1835.

ON THE USE OF THE DATURA STRAMONIUM, IN SARCOCELE AND DISEASES OF A SIMILAR CHARACTER.

By Thomas T. Everitt, M. D., of Poughkeepsie, N. Y.

Sarcocele is generally regarded as a disease of which the progress and advancement are only to be interrupted, and its evils avoided, by castration. Like most diseases of the glandular system, which are characterized by increase in size, and other evidences of morbid action, without acute inflammation, it has engaged the attention of the surgeon only with a view to an operation, as a measure inseparably connected with the disease, and one that sooner or later, as circumstances dictated, must be resorted to. If attempts have been made heretofore, to retard its development, they have been unsuccessful, so far as can be ascertained; and in the treatment of it, such course in practice usually adopted as would tend to the comfort and convenience of the patient; palliating his distress, and

affording momentary relief, but nevertheless, with an assurance which experience has invariably taught, that the knife was the only sure and certain remedy, and to its power the patient must ultimately resign himself.

The partial successful treatment of two cases of sareocele leads the writer to hope that remedial agents may yet be found, to which enlarged and diseased glands will readily yield. And with the intention of eliciting the attention of the profession to the subject, he is induced to report the results of his efforts.

In two cases of the disease which have been subjected to the use of the stramonium, both have been materially benefited, and in one the morbid action and train of disease entirely arrested; the tumour lessened in size, and most of the attendant evils removed. In connexion with its use the suspensory bandage has been worn, and mild catharties administered at intervals of eight or ten days. For the period of two months the patient made use of the ointment of stramonium of twice the usual strength, applying it plentifully to the scrotum with considerable friction. At the same time he was directed to take of the extr. stramonii a quarter grain every morning and evening. For a small part of the time pil. hydrarg. was administered, and different times in the course of the treatment other medicines, as iodine, &c., but none continued for any length of time, and there can be no doubt of the improvement in the case being altogether the effect of stramonium. Having much faith, therefore, in its medical properties, I would recommend its use more generally in affections of the glandular system, believing it will be found useful and efficacious.—*United States Med. and Surg. Journal, for October*, 1835.

OINTMENT TO ALLAY THE IRRITATION OF HEMORRHOIDAL TUMOURS.

By E. Geddings, M. D.

So much suffering is experienced from the incessant irritation of hemorrhoidal tumors, that every means capable of affording relief under such circumstances must prove acceptable to the profession. I have used an ointment similar to the following, with the most happy effects, and in a great number of cases:

R Pulv. Carb. Plumbi, ℥ ss. Sulph. Morph. gr. xv. Unguent. Stramon. ℥ j. Ol. Olivar. qs. M. ft unguent. part. applicand.

Powdered opium, to the amount of a drachm, may be substituted for the morphia, and if the dry white lead is not at hand, that which is ground in oil, for the use of painters, may be advantageously substituted. Sometimes a drachm of powdered galls may be added.—*American Archives, No.* 1. *Oct.* 1834.

ON A NEW MODE OF TREATING BURNS.

By Professor Velpeau.

M. Velpeau recognizes four degrees of burns: in the first there is simply rubefaction; in the second, vesication; in the third, the rete-mucosum and first layer of the true skin are involved; and in the fourth, a part, or the whole thickness of the skin is converted into an eschar. If left to themselves, the first either terminates in resolution from the second to the eighth day; or changes into true erysipelas, or vesicates; the second rarely recovers in less than ten or twenty days, as the epidermis becomes detached and suppuration established; the third is followed by ulceration of the dermis, and the cure is delayed for a month or more; the slough is not detached from the fourth in less than ten or twenty days, nor is the ulcer healed under from two to six weeks. The merits of numerous remedies for burns are examined in relation to these degrees.

1. COLD WATER.—This is useful only in the first degree, which it cures in three or four days.

2. METHODICAL COMPRESSION, WITH A ROLLER.—This is still more useful in the first degree: in the second and third the epidermis should be removed previously, the wound covered with linen in which numerous small holes have been cut, spread with cerate, and then covered with charpie. It then prevents erysipelas. In the same manner it is useful in the fourth degree.

3. COTTON, OR DOWN OF THE TYPHA.—These are useless in the first or fourth: employed early in the second and third, degrees, they absorb all moisture, become dry, and a cicatrix forms beneath them, sometimes in a week or fortnight; but very often they form a crust, which does not prevent inflammation or suppuration manifesting themselves. It is a remedy of little value, except in some few situations or cases.

4. THE SOLUTION OF THE ALKALINE CHLORIDE.—This acts much like cold water; but it also improves the state of the ulcerations. M. Velpeau has tried the chlorides of soda and lime in more than fifty cases, but thinks their value has been greatly exaggerated, and that they are merely good detersives.

5. SATURNINE LOTIONS.—These act in much the same way: they are more sedative and less exciting than chlorides.

6. LINSEED POULTICES.—These are too much neglected: they calm irritation, remove the elevated epidermis, and diminish suppuration in young and sanguine habits: where they are not beneficial after a few days, their use should not be persevered in.

LEECHES.—These applied around eschars prevent or diminish inflammation and erysipelas.

8. LINIMENT OF EQUAL PARTS OF OIL AND LIME-WATER.—This in superficial burns, particularly of the face, is very useful; the parts being anointed four or five times daily with a feather. No dressing is required: in five or six days large burns of the first, and some of the second degrees, have been cured by it.

9. STRAPPING WITH DIACHYLON PLASTER.—M. Velpeau originated this plan, and has pursued it with great success since 1832. It fulfils the same indications as compression, besides hastening greatly cicatrization. The first degree is constantly arrested by surrounding the burn in such a manner that the straps will remain seven or eight days, and without hindering the patient from performing his usual duties. In the second and third degree, the epidermis must be first removed, and the wound cleaned, and the strapping renewed every third, fourth, fifth, or sixth day: the cure almost constantly takes place from the fourth to the sixth day, in the second; and from the tenth, fifteenth, or twentieth in the third degree. In the fourth degree it represses the surrounding inflammation; does not hinder the separation of the sloughs, and as they become detached it favours cicatrization. Each strap must be from three quarters to one inch in breadth, and long enough to make one turn and a half around the burned part; the first being placed an inch below, and the last an inch above it: they must overlap each other so that only one-third of each is exposed; they must be very evenly applied, so as to compress equally every part, and the ends must be crossed over the sound skin. If suppuration is profuse, they should be changed every two days, at first: in ordinary cases every three or four days is sufficient. In the fourth degree, before the eschars are detached, the traps should remain for five or six days; the discharge which escapes between them being absorbed by charpie, and the whole surmounted with some compresses and a roller: when changed, the wounds should be cleansed, and even washed with saturnine lotion. No portion of detached epidermis should be left. If the surface of the part burned is uneven, the inequalities must be filled with charpie, or compresses, placed between the strapping and the roller. This treatment is only applicable for the arms and legs, and must be suitably modified for the hands and feet. In very large burns it is not advisable, as the dressing would be inconvenient and difficult. Some skins also will not bear it. The composition of the plaster is important. The linen should be neither too fine nor too coarse; neither too thickly or too thinly covered. That diachylon is best which has less resin and fat and more lead. The effect of this treatment is astonishing. Burns of the limbs generally are cured, in three or four dressings. The cicatrix in many respects is remarkable. It forms on all points of the surface, denuded to the second degree, at the same time; so that on the first or second removal of the straps it looks large, smooth, and supple, but firm. In the third degree, the same thing is observed: the new skin forming in the centre of the suppurating wound as well as around its edges. [M. Velpeau considers this remarkable, "*une particularité*," but John Hunter has described it as the usual mode in which ulcerations heal where the *whole* thickness of skin has not been destroyed.] If the ulcer is deeper, its edges soon subside, become white, and then prolonged by a kind of pale thin pellicle over the suppurating surface. The granulations become firm, and are soon replaced by an epidermic surface, even before the bottom of the wound is on a level with its edges, so that the cicatrix remains a long time depressed. As the cicatrix is not formed wholly from the circumference to the centre, and is soft, of equal thickness, and very extensible, it is free from bridles, and irregular and deformed lumps, which follow other modes of cure. As they are less exposed to break and to excoriate, the consecutive retractions are more often voided.

The duration of the treatment is almost the same in large as in small wounds. When well done, it gives no pain nor irritation: no dressing is so pleasant; and immediate relief follows. As it is changed only every three or four days, it is extremely inexpensive.

The details of sixteen cases are given, illustrating the effects of this treatment, and proving the previous statements. Some of these also prove that cicatrization takes place as rapidly in an ulcer of some standing, as when the surface is first exposed. No other treatment but this is equally suitable in all stages. In order to discover on what the beneficial effects of this treatment depended, M. Velpeau made numerous comparative experiments: thus, to try if the compression was the agent, he tried on the same patient compression by bandages, covering the wound with different dressings, but the burns which were strapped healed more rapidly: he next tried strapping with other plasters, but the diachylon succeeded much more rapidly: finally he compared the effect of covering the burns with disks of diachylon and other plasters without making pressure, and they healed more rapidly under the use of diachylon, but less so than when pressure was used. The union of pressure and the diachylon plaster is therefore essential. It is needless to state that this is merely an application to burns of Baynton's mode of treating ulcers: M. Velpeau has however applied it to ulcerations of all kinds, and even to subcutaneous inflammations and indurations. He proposes to return to this part of his subject at another period.—*Revue Médicale Française et Etrangère, Juin et Juillet*, 1835.

[The above abstract of M. Velpeau's valuable memoir will be appropriately followed by a brief notice of another mode of treating the same lesion, recommended by an American physician, and which we extract from a recent American journal.]

ON THE TREATMENT OF BURNS WITH YELLOW WASH, (AQUA PHAGÆDENICA.)

By F. B. E. Hintze, M.D.

Dr. Hintze, having failed in treating with success by unctuous applications the chronic ulcers which succeed to burns, had recourse to the application of the yellow wash, powdered

rhubarb, and dry lint, from the known good effect of such applications in other ulcers. The general benefit obtained from this mode of treatment in such chronic cases induced him to employ it in recent burns. He details eight cases in which this plan was successfully followed; but as they present nothing remarkable beyond the result of the treatment, we shall content ourselves with extracting that portion of the paper which contains some general directions for the use of the method recommended.

"The wash," says Dr. Hintze, "which I employ in recent cases, is composed of one grain of corrosive sublimate to an ounce of lime water. In chronic ulcers, I use it of the strength of one and a fourth grain to the ounce. When called to a case of recent burn, I remove all the vesicles with scissors. I then apply the yellow wash with a soft feather, or a camels' hair pencil, over the whole surface, and dust the part with finely powdered Turkey rhubarb. Over this I apply soft patent lint, cut into small slips to accommodate them to the part. This is the only local treatment necessary; and, if there should be any indication for constitutional remedies, the means proper in such cases should be employed. Should additional vesicles make their appearance, they must be promptly removed, as the accumulation and detention of a quantity of fluid within them tends to retard the healing process. Where the lint adheres, it should not be disturbed, but any pieces which may become loose may be separated with forceps or scissors. The part should again be wet with the wash, dusted with the powder as before, and covered with fresh lint. The adherent lint should also be moistened with the wash. This process should be repeated at least once or twice a day. Should tension, with more or less thickening, affect the part, generally indicative of the incipient separation of a slough, this process should be promoted by emollient poultices. As soon as the slough has separated, the former remedies are to be renewed. All ablutions with soap and water, &c. are inadmissible. If the purulent secretion should be too profuse, it may be gently removed with dry lint or soft old linen."—*American Archives of Med. and Surg. Science.*

ON THE TREATMENT TO BE ADOPTED AFTER THE REDUCTION OF DISLOCATIONS.

By J. F. Malgaigne,

Professeur agrégé a la Faculté de Médecine.

Treatises on distortions are deficient in directions as to the treatment to be adopted after these accidents have been reduced, and, to fill up this hiatus, M. Malgaigne has written a paper on the subject, which was read before the Academy of Medicine. The practical deductions which he has laid down are, that forty days are at least necessary to consolidate the torn articular capsules and ligaments, and in many cases a still longer period: in dislocations of the lower limbs especially, the patients should not walk for sixty days. Simple repose at the commencement is not sufficient, even in those dislocations which appear to remain *in situ*, by themselves. Thus, when the femur has ruptured its capsule upwards and outwards, the position must differ from a rupture downwards and inwards. In the first case the thigh should be extended, and the foot turned outwards; in the second, the foot should be turned inwards. If the bone is dislocated on the pubis, the thigh should be strongly flexed. The rules generally laid down by surgeons are in reference to the prevention of an anchylosis; but there is another object to be fulfilled by position, which is to adjust it so that the ruptured edges of the ligaments should be in contact. In luxations of ginglymoid joints, the most favorable position is demiflexion; for in this attitude the points of insertion of the torn lateral ligaments are the least separated from each other. When an old dislocation is reduced, five or six months are necessary to the cure. In unreduced dislocations of more than two months' standing, where the new capsule is probably becoming organized, and particularly when a change of the articular surfaces is feared, the limb should be held in position by a suitable apparatus until the swelling has disappeared; after which, slight motion in fit directions may be permitted, and the joint strengthened by douche baths, or external cauterization.—*Journal Hebdomadaire de Médecine, No.* 46, 14 *Novembre*, 1835.

NEW MODE OF TREATING LUXATIONS OF THE STERNAL END OF THE CLAVICLE.

By M. Velpeau.

No luxation is more easily reduced, or with more difficulty retained in its place. The difficulty is owing to the endeavour of the surgeon to oppose the power which tends to carry the clavicle forwards, instead of relaxing the muscles whose action oppose his wishes. Anatomy and experience show that in these cases the anterior sterno-clavicular and interclavicular ligaments are broken, and that dislocation necessarily follows, as the articular surfaces are so constructed that they do not offer any resistance to the muscles, which immediately displace the end of the bone: the pectoralis major and internal portion of the deltoid drawing it forward, the trapezius and sterno cleido-mastoideus drawing it upwards; whilst both sets are assisted by the large muscles of the trunk attached to the scapulæ. The deltoid, pectoralis major, sterno-cleido-mastoideus, and trapezius are relaxed, and the rest neutralized, by carrying the elbow inwards and forwards to the lower part of the sternum, so that the hand may rest upon the opposite shoulder: when this is done, the bone returns to its place. It can be retained there by the following apparatus: A towel, folded thrice, is first placed round the thorax, and retained by braces attached to its upper

border. The arm is then placed in the necessary position, and held by an assistant. The surgeon fixes the end of a bandage (eight yards in length) under the armpit of the sound side; brings it behind over the luxated clavicle; then downwards over the part of the arm; passes it behind and beneath the elbow; then again under the sound armpit, behind the chest, above and before the injured clavicle, so as to make three or four turns like the first. Next he passes the bandage, which has just embraced the elbow, over the fore-arm, then on the sound clavicle, between the hand and the neck, instead of passing it under the armpit as before; after which he passes it downwards behind the thorax, towards the elbow, bringing it again on the fore-arm and clavicle, and making thus three or four diagonal turns. After this the bandage is not again passed under the elbow, but it is passed two or three times from below upwards round the chest and the bent arm; the remaining part is expended by making a few turns like the first, fixed by two or three circular ones. The whole is fixed by pins, and secured by a napkin covering all. This bandage may remain a month or more without any displacement. A more simple contrivance is a belt, or band, passing round the body, and having in front a deep pouch for the elbow. When the belt is fixed, and the elbow placed in the pouch, the belt must be drawn forcibly upwards towards the clavicles, and fixed there by braces over the shoulders, which are attached to the upper border of the pouch, as well as to the edges of the body-belt.—*Journal Hebdomadaire de Médecine, Mai* 30, 1835.

ON THE SEAT AND DIAGNOSIS OF DISLOCATIONS OF THE SHOULDER JOINTS.

By B. M. Malgaigne.

It is commonly admitted that the head of the humerus may be displaced *downwards*, beneath the glenoid cavity, so as to rest on the neck of the scapula; *forwards and inwards*; and *backwards* into the fossa subspinata; besides which, there may be incomplete and consecutive luxations, the latter from muscular action. M. Malgaigne partially dissents from these commonly received opinions, on grounds both of anatomy and practice. The glenoid cavity is surrounded superiorly, anteriorly, and posteriorly by an osteo-fibrous arch (acromio-coracoid), which, as it descends lower behind than before, renders posterior dislocations more difficult than anterior, and, as it is deficient inferiorly, appears to favour luxations in this direction. The scapulo-humeral capsule, however, opposes this, for, although very loose, it is not sufficiently so for any dislocation, except a very partial one forwards, to take place without its being ruptured, at least in half its circumference; and even when the inferior three-fourths are torn, the upper fourth still remaining prevents the head of the humerus from being luxated downwards, as has been commonly imagined, and it is then almost necessarily placed under the coracoid process. The deductions which M. Malgaigne draws from anatomy are—

1. Cæteris paribus, the dislocation beneath the coracoid process is the most easy.

2. This luxation may take place without the capsule being torn, but then it is incomplete.

3. In every complete luxation of any kind the capsule is ruptured.

4. It is impossible that the head of the humerus can be placed on the neck of the scapula, fossa sub-scapularis, or fossa subspinata, unless the capsule is torn in all or almost all its circumference, except in those cases where it is unnaturally elongated.

5. In every luxation the arm is found to be elongated, if measured when brought near to the trunk.

In M. Malgaigne's experiments on the dead body, he luxated the head of the humerus beneath the coracoid process, so that the head was freed from the capsule, and directed forwards and inwards; the greater tubercle resting in the inferior part of the glenoid cavity, and the neck applied to the anterior border of the glenoid cavity. This dislocation presented all the symptoms of the luxation downwards of authors, besides some other symptoms not previously described, such as—1. Elongation of the anterior wall of the axilla, measured from the clavicle to the free border of the axilla. 2. Projection of the luxated head forwards, beneath the pectoralis major. 3. Rotation of the humerus outwards, in some cases extreme, in others hardly or not perceptible. From these data three inferences are drawn: 1. Symptoms, such as abduction of the arm, which have been attributed to muscular action, depend on the resistance of the capsule, as they are found in the dead body. 2. The supposed dislocation downwards in only a sub-coracoid dislocation. 3. Important signs of these dislocations had been overlooked. M. Malgaigne has confirmed these conclusions, by proving that the same symptoms are found in dislocations during life, and by showing, from examinations on the dead body, that these symptoms are produced by the sub-coracoid dislocation. Many cases are collected; two of these are striking. The first was in a woman, and Dupuytren (whose diagnosis was proverbially sure,) had pronounced it to be fracture of the neck of the humerus: the application of M. Malgaigne's principles of diagnosis made him alter his opinion, and the dislocation was reduced. The second case supports M. M.'s opinion, that no consecutive dislocations are produced by muscular action. On examining the arm of a Russian soldier which was dislocated at six years of age, and unreduced, the pressure of the edge of the glenoid cavity on the neck of the humerus was found to have been so great as to have made a large and deep depression, dividing the head from the shaft in the same way as in the

femur, (nova acta physica-medica.) M. Malgaigne has met with only one decided case in which the dislocation was downwards. This is mentioned by Dessault. The capsule was entirely separated, for the head of the humerus was so moveable that it could be carried with equal ease against the external border of the pectoralis major, against the anterior edge of the latissimus dorsi, and against the skin of the axilla, which are very different from the common symptoms of luxation. The situation of the head of the bone varies a little even in the sub-coracoid dislocation, but without altering its general character. Generally it is found immediately beneath the coracoid process, from which it is only separated by some fibres of the sub-scapularis: sometimes, however, it is 2, 3, 4, or more lines beneath it; at other times it is carried a little more inwardly. Dislocation inwards of authors is called by M. Malgaigne luxation sub-scapularis, and his opinions are new. The arm in this dislocation is longer than the other, but the contrary is the usual opinion. The head of the humerus cannot be felt in the axilla; it projects beneath the clavicle more internally than the coracoid process; the projection is irregular, and formed by the tubercles of the humerus, as is proved by the touch and the direction of the condyles. The arm, instead of being separated from the body, to which it cannot be approximated, as in the sub-coracoid dislocation, is forcibly applied to the trunk, from which it cannot be separated unless by considerable force and pain. From many examinations after death it appears that the head is placed in such cases in the fossa sub-scapularis. M. Malgaigne thinks that partial luxation of the humerus may take place, and that in such cases the head of the bone is always beneath the coracoid process, but not wholly driven out of the glenoid cavity. He therefore does not agree with Sir Astley Cooper, who considers that the head of the bone, in partial dislocation, is situated externally to the coracoid process; and, in criticising Sir Astley's cases, shows that in the cadaveric post-mortem observations, the head of the bone is stated to be beneath the coracoid process. This may take place without rupture of the capsule, but it is generally torn. In three cases the arm could be approximated to the trunk, but this does not seem to be constant. The arm itself is elongated. This is a more common dislocation than is supposed. It is a singular fact that the polished spherical head of the humerus resting on the polished edge of the glenoid cavity is not moved by the muscles, and may remain there until a deep groove is formed. Sir A. Cooper and Dupuytren agree that it is difficult to reduce and to maintain in its position afterwards. M. Malgaigne has remarked that the pain in partial dislocations is greater than in others, which he attributes to the capsule being more stretched because it is less torn. It is generally caused by force acting directly on the shoulder.

[This memoir elicited a discussion in the Academy of Medicine, and subsequently a letter from M. Malgaigne. The important point which M. Malgaigne wishes to establish is, that *in every luxation of the humerus the arm is elongated.* M. Velpeau objects to this; but it appears that sufficient care was not taken to measure the arms accurately in the cases which he adduces as exceptions. The arm in all cases should be approximated, as much as possible, to the trunk, and the distance measured between the inferior angle of the acromion and the external condyle. M. Lisfranc, although disposed to agree with the author, makes the sensible remark, that the words "always and never" should be erased from pathology. The practical value of fact that the arm is invariably elongated in dislocation, is seen in its application to the diagnosis between this accident and fracture of the neck of the humerus, which is often difficult. In only two cases (according to M. Lisfrance,) can the arm be elongated when there is fracture of the neck, viz. with paralysis of the limb, or with oblique fracture, when, by extension, the upper end of the lower fragment has been brought to rest upon the lower end of the upper portion. These two accidents, however, are rare, and easily recognised, and in all others this sign is of great diagnostic value.]—*Gazette Médicale, Oct.* 1835 *Nos.* 40, 41.

OBSERVATIONS ON THE EMPLOYMENT OF THE SUCTION PUMP IN INCARCERATED HERNIA.

By Dr. L. Koehler, of Warsaw.

In 1828 Dr. K. succeeded in reducing a scrotal hernia, after it had remained obstinately incarcerated for three days, by the merely incidental application of a cupping glass. Having, then, never heard of the employment of the suction-pump in similar cases, he scarcely ventured to attribute his success to the real cause: yet the occurrence impressed itself upon his mind, and induced him, on reading Dr. Busch's Observations on the use of the Suction pump, in Hufeland's Journal, for 1832, to give this new method of reducing incarcerated herniæ a fair trial. The first experiment was made on a man, aged sixty, who had been affected with a scrotal hernia of the left side for nine years, and which suddenly became incarcerated, in consequence of an indigestion. The patient became affected with violent colic, and all attempts on the part of a surgeon to effect reposition were fruitless. When Dr K. first saw him, he had been in this state for three days; and the scrotal sac had attained the size of an ostrich's egg. The features were sunken, and indicated great anxiety; the body suffused with a cold sweat; abdomen inflated, hard; extremities cold; pulse scarcely perceptible, and thready; bowels not relieved for three days; fæcal vomiting and singultus ensued. In vain the most active treatment had been already employed, and an immediate operation appeared to be the only possible means of saving the patient, although, under the circumstances, even that resource seemed next

to hopeless. The swollen and inflamed parts being still capable of bearing some degree of pressure, Dr. K. made an ultimate attempt at taxis: but that failing, the suction-pump was then had recourse to. On its first application over the abdominal ring, borborygmi were heard within the incarcerated sac, and, to the surprise and satisfaction of every one, reposition was effected immediately afterwards. The vomiting instantly ceased, a few hours later the bowels acted freely, and the patient entirely recovered in a few days.

Six cases of incarcerated inguinal and one of incarcerated crural hernia (in a female) are further detailed, in all of which the strangulation, after resisting every other kind of treatment, short of actual operation, yielded almost immediately to the relaxing powers of the suction-pump.

In the instance of a Jew pedlar, however, greater perseverance in the new method was found requisite. This individual (whose age was sixty-two) had been affected, during a period of twelve years, with a scrotal hernia, which, owing to a mismanagement of the truss, became ultimately strangulated. When the patient was first examined at the Jewish hospital, the hernial sac was of the size of a child's head, and somewhat tense, though not remarkably tender. The patient had vomited twice, but his bowels had (in spite of several clysmata, which were administered to him before entering the hospital) remained constipated for four days. No success having attended a first application of the suction-pump, venesection and an anodyne ointment were had recourse to, together with the exhibition of calomel in liberal doses. No improvement was, however, effected by these means; the vomiting returned, the fever continued unabated, whilst the affected part become more and more painful. Under these circumstances, Dr. K. resolved on renewing the application of the suction-pump. This second attempt again proved a failure; but on the trial being repeated, slight peristaltic motion within the hernial sac became perceptible, and immediately after the fourth application of the instrument, complete reposition of the hernia was effected without difficulty. Copious alvine evacuations ensued shortly afterwards, and in a few days the individual had recovered his former health.

In an obstinate case of strangulated inguinal hernia, a colleague of Dr. K once succeeded in accomplishing his purpose of reduction, by simply applying an inverted tumbler, by way of a cupping-glass, at the point of strangulation.

Professor Janikowski communicated to Dr. Köehler a case of strangulated umbilical hernia, wherein he had employed the suction-pump with perfect success. The patient, a corpulent unmarried woman, aged fifty, had been afflicted with umbilical hernia, which never admitted of perfect reposition for the space of two years, when true symptoms of strangulation supervened. After three days of obstinate costiveness, stercoraceous vomiting ensued. The hernial protuberance was of the size of a large orange, hard and very sensitive. All the usual remedies having proved abortive, the suction-pump was at length resorted to. Its application was productive of great pain, and the integuments became, to a certain extent, excoriated, as they drew up and filled the glass bell. The instrument, having been allowed to operate for some little time, was at length withdrawn, when *complete* reduction of the hernia was effected with perfect ease. Abundant stools quickly led to recovery; and the application of a suitable truss removed every inconvenience under which the woman had formerly laboured.

A further enumeration of cases in which taxis was accomplished, and the knife superseded by means of the suction-pump, appears to Dr. K. to be superfluous. In twenty-three cases, most of which were of a hopeless kind, the new method never once failed him; and it were greatly to be wished, he concludes, that so simple a remedy might be called into more general use.—*Hecker's Annalen. Erster Band. Viertes Heft*, 1835.

MEDICAL AND PHYSICAL SOCIETY'S MEETING.

Saturday, October 1, 1836.

J. Langstaff, Esq., 1st member, Medical Board, in the chair.

Present Dr. Ranken, Mr. Mercer, Mr. Egerton, Dr. O'Shaughnessy, Dr. J. Jackson, Dr. Cantor, Dr. Drummond, Mr. O'Shaughnessy, Dr. McClelland, Dr. D. Stewart, Dr. Wood, Dr. Goodeve, Mr. Brett, Mr. Corbyn.

Letters from the following gentlemen were read:

From A. MacGowan, Esq., Calcutta, and J. Ronald, Esq., surgeon, 24th Regt. N. I. requesting that their names might be withdrawn from the Society.

From C. Morehead, Esq., M. D., stating that Messrs. Leckie and Co. of Bombay will undertake the agency of the Society at that presidency, in answer to a request that Dr. Morehead would ask those gentlemen to perform that office.

S. H. Batson, Esq. assistant-surgeon, was proposed as a member of the Society, by Dr. D. Stewart, seconded by Dr. J. Jackson.

The secretary's report, upon the subject of the periodical, proposed to be published by the Society, was then read.

The report stated that, in consequence of a resolution passed at a meeting of the Society in March last, a circular had been dispatched to the Mofussil, requesting the opinion of members upon the propriety of publishing a periodical journal under the auspices of the Society, and the mode of conducting it; and at the same time calling upon the subscribers to pay up their arrears, so as to enable the Society to meet the increased demands upon

their funds, which the proposed publication, if carried into effect, would necessarily entail upon them. The result of this appeal was the receipt of numerous replies in favour of the proposition; the majority deciding for a quarterly rather than a monthly journal, the writers expressing themselves willing to pay the cost of forwarding it from the head-quarters of their respective divisions. The greater part of the letters were accompanied by remittances, amounting, in all, to about Rs. 4,000. The funds of the Society were in consequence materially improved, the balance in its favor, in the Union Bank, being at present 4,671 Rs. after all expences for the year have been deducted; the whole amount of subscriptions for 1836, and some arrears for former periods being yet unpaid.

The report went on to state that, in compliance with the general wish of the members, it was proposed to establish, from the 1st January next, a journal of selections and original matter, to be continued quarterly and forwarded to the head-quarters of divisions at the cost of the Society.

It appeared from the printer's estimate that a journal of one hundred closely printed pages would cost about 320 Rs. per number. This, with incidental expences for drawings, would give an annual charge of about 1,600 Rs. and if 400 Rs. were allowed as the average of dawk charges, the whole would amount to 2,000 Rs. per annum. The dawk charges were, however, uncertain, because there was good reason to believe that these would be diminished materially by the proposed alterations in the post office.

With regard to the editorial management the report stated, that the secretary, Dr. Goodeve, and his colleague, Dr. O'Shaughnessy, had already expressed their willingness to undertake that office, and that they were now fully prepared, with the concurrence of the Society, to commence their labors. In doing so, however, they stipulated for the sole responsibility of the editorial office, and that it should be placed on the same footing as the editorship of the Asiatic Society's journal. Without this condition they could not be answerable for the success of their work. The Society were of course at liberty to withdraw the trust confided in them whenever their labors were unnecessary or displeasing to the members. It was proposed to place at the disposal of the editors a certain sum for the purchase of periodical and standard works, in addition to those already received by the Society, and an extra writer and hurkaru were requested.

Dr. Ranken said there could be no objection to the journal now proposed.

Mr. Egerton was of opinion that the thanks of the meeting were due to the secretary for his able report. He proposed it should be adopted.

Dr. D. Stewart hoped that the journal would take the name of the Society.

Dr. O'Shaughnessy assented and added that the quarterly was not intended to interfere with the polities of the profession.

Dr. Ranken hoped the papers communicated to the Society would be published in the quarterly, instead of being permitted to be laid by for a year in the secretary's desk.

Dr. Goodeve said that such was the intention of the Editors.

Dr. Ranken then seconded the proposition, and there being no dissentient voice expressed against it, the president declared that it was carried.

The following case by Mr. Brett was then read:

I need scarcely say that cases of difficulty too frequently devolve on the practitioner in Medical and Surgical Science; that such are the most legitimate subjects of discussion, and by communicating them to his professional brethren, he is enabled to obtain an elucidation of those conflicting points of practice which sometimes baffle his most careful consideration.

A European gentleman, of advanced age, labouring under cataract of the right eye, which he perceived a few evenings since, on the occasion of his closing with his hand the left eye, in order to examine minutely a star, when he discovered that he was blind of the right eye. He consulted me on the following day. The state of the eye on that occasion was as follows. Slight lippitudinous appearance of lids: in every other respect the eye was perfectly healthy, being free from all preternatural vascularity; the iris of a normal color (light blue), expanding and contracting freely; the retina sensible to the light, and to the shadows of objects when brought near.

Appearance of the cataract. A hard lenticular cataract, combined with opacity of the capsule; the lens being of rather small dimensions, as, on employment of the belladonna; the edge of it is distinctly visible, surrounded by a black circle, through which the rays of light are admitted to the retina.

After about a fortnight's preparatory treatment by diet and the occasional administration of alteratives and purgatives, the operation of reclination was performed, assisted by Mr. Malcolm, the patient's personal surgeon. The lens was depressed with facility, and the capsule freely ruptured with the point of the needle, the operation lasting about a minute, and the centre of vision being ascertained to be perfectly clear. The patient was kept on abstemious diet; bandage and cold lotion applied, and the dilatation of the pupil secured by the application of belladonna, to the brow, and he was kept tranquil.

On the second day, if I recollect right, I found the patient standing with his head downwards, which he was bathing in a basin of water. He complained of no pain. I restricted him to the horizontal posture, and prescribed a mild aperient.

On the third day, repeated syncope, with high nervous irritability, came on, approximating closely to delirium tremens. There was watchfulness, jactitation, and occasional wandering. The loss of his accustomed stimulus of wine told with great severity on the system;

a moderate quantity was accordingly immediately administered, and a full dose of hyoscyamus was prescribed at bed-time.

On the fourth day some inflammation, indicated by a sensation of pricking in the ball of the eye, came on, and slight soreness of the temples, for which 18 leeches were applied to the brow, and hyoscyamus, in a full dose, repeated to diminish the irritability, which was very considerable.

On the fifth day there was an entire absence of pain; the anodyne was repeated at night, and the diet and wine increased, which the lowness of the pulse seemed to indicate.

On the sixth day the bandages were removed; the pupil appeared perfectly clear and circular but enormously dilated, causing the iris to appear as a mere ring: not the least vestige of capsule, and but very little conjunctival inflammation. There was not the slightest vision, on closing the opposite eye; he described it as total darkness: this alarmed him much. I did not hesitate in attributing this to the combined influence of the belladonna and hyoscyamus, operating on a system much reduced by abstemiousness in one accustomed of late to a totally contrary system of living, and I prognosticated the amaurosis as only temporary. The hyosciamus was discontinued; the belladonna had been so two or three days before; and nutritious diet allowed, and a small blister applied to the temple, free circulation of air &c.

Accordingly on the seventh day the light was distinctly visible, and there was some intolerance of light; pupil contracted to its natural size; conjunctiva red and somewhat œdematous: no pain or uneasiness of any kind; strength and general health improving. Exercise in the carriage in the evening, a shade being kept on the eye.

R. Zinci sulphatis ℥. xij.

Aquæ Rosæ dil. ℥ xvj.

M. fiant collyrium occulo frequenter applicandum. Animal, food, wine &c. in moderation; the blister still kept open; the bowels have been daily relaxed by a saline purgative.

8th.—Considerable conjunctival inflammation; pain on opening the lids, which he retains spasmodically closed, but otherwise complains of no pain whatever.

Hirudines, xxx. fronti applicand:—

Repetatur haustus aperiens.

Omit. lotio zinci sulphatis.

9th.—The orbicularis, acting spasmodically and closing the lids. The inflammation reduced considerably. On opening the eye, he again declared himself insensible to the light; no pain; refrigerent; lotion and the aperient repeated.

10th.—Much the same; refuses to have a blister to the back of the neck for an issue to the temple, and has throughout been very obstinate.

R. Antimon. tart. giij.

Aquæ Ferventis, ℥; M.

et sumat cochl: ij. ampla statim, et cochleare; aicni hora usque ad nauseam.

Was much vomited by the tartarized antimony, which was discontinued; felt distressed by the light falling on the inflamed eye, and yet declares now he cannot see at all. Less spasmodic action of the orbicularis, but keeps the eye closed.

11th.—Complained of violent pain in the brow and temple during the night; refuses to adopt any further measures for the reduction of the inflammation. The pupil and iris appear perfectly clear and natural, and have so throughout with the exception of the dilated pupil before alluded to; much redness of the conjunctiva; general health has been daily, though slowly, improving.

12th and 13th.—Complains of much soreness of the head and temple; conjunctival inflammation somewhat increased; refuses to have an issue to the temple or to accede to any measures, notwithstanding our repeated solicitation.

14th.—Pain of head and temple rather diminished; has been using some trifling palliative applications; pupil more contracted. This day a small portion of capsule was observed floating in the posterior chamber.

16th, 17th, and 18th.—Continues in the same state in every respect; uses the vinum opii occasionally, and has the pupil slightly dilated by the belladonna. His strength and spirits are gradually improving, but he will submit to no treatment or discipline.

The chronic inflammation continued for a considerable period; but, notwithstanding every solicitation, he persisted in rejecting whatever was proposed. Of course any further attendance on the case could be of no avail. I intimated to the patient and family that I could not be responsible for the case, that the operation itself was in every respect as perfect as it could have been, and offered the fairest possible chance; but as the medical attendants were not permitted to act according to their own conviction, the case must be left to the resources of nature, to palliative measures, pure air, exercise, and general attention to the state of the health.

Taking a sincere interest in the patient, I occasionally gave him a private call. There were relapses of the low nervous symptoms, and sometimes exacerbations of the inflammation, but on the whole he rather improved.

Four months after my discontinuance of professional attendance, I called previous to taking my departure from Saugor. I then minutely examined the patient, and found him as follows. Health good; all inflammation had disapeared; the pupil perfectly clear and natural; the iris likewise normal, though it did not contract or expand so freely as it ought; no vestige of capsule or lens; the dimensions of the ball of the eye the same as the other; no progress of the cataract in the opposite eye; so that he has been evidently a gainer in every point of view, though it certainly was incipient before the operation.

In reviewing the preceding detail I would observe that it would have been advisable, perhaps, if the preparatory measures had been more prolonged; but the patient was most anxious for the operation, and suspense was painful to him.

Though occurring in an individual of advanced age, the case was by no means apparently unfavourable in point of stamina of constitution, and Lawrence, Wardrop, and the most approved authorities at home and abroad, consider that advanced age is, cæteris paribus, by no means an objection.

There was a chance too of the operation preventing the morbid action going on in the opposite eye. It was in the right eye, cataract being incipient in the left. The patient had all these considerations pointed out to him and he was solicitous to avail himself of those chances in his favor, and the result appears, in this instance, to have corroborated the presumption.

The stimulating treatment was imperiously called for, and it was not carried to excess; yet it very shortly afterwards was contra-indicated, and the alarming symptoms again returned, so that it was exceedingly difficult to balance the two conflicting questions of antiphlogistic measures, and those of a stimulant and antispasmodic nature.

Again, the amaurotic affection appeared to have been brought on by the hyosciamus and belladonna, as well as from the depressed state of the system; yet the moment almost that the former were suspended and the latter removed, excessive intolerance of light and inflammatory action supervened. There was indeed no middle course to steer, between this scilla and charibdis; but there was the alternative of counter-irritation: here, again, I should have formerly observed erysipelatous inflammation came on, and it was necessary to renounce that alternative.

When the storm had subsided in a great measure and the opthalmic condition had lapsed into a more chronic character, much might have been effected, and the irritability of system having in some degree subsided, counter-irritation would have been better borne, had it been submitted to by the patient. But to cure obstinate chronic inflammation counter-irritation must be carried to rather a severe extent. A rather large issue in the temple, dressed with the tartar emetic ointment, has great effect, conbined, of course, with local depletion and frequent purging. I have at this moment a patient in the Body Guard, who has labored under chronic opthalmia for nearly five years, in whom this treatment is producing considerable benefit.

My patient, however, was highly irritable in mind and equally so in body; and it was impossible to prevent him doing whatever he liked.

It was not mentioned to me, until nearly the termination of the treatment, that he had for many years been subject to ulcers on the neck, which had of late years healed; neither did I know of his having been accustomed to so large a quantity of stimuli, as I afterwards found he had.

The patient, however, sees well for an individual of such a period of life, and, if he employed a well adapted artificial convex lens, would see with the right eye as well as most patients who have undergone the operation, but, having more perfect vision with the left, he does not require it.

Reverting once more to the diseased action being stopped in the opposite eye, we know that the most uncomplicated cataracts are caused by inflammatory action of a peculiar kind; for generally patients complain, whilst the opacity is forming, of an itching or irritation, and increased flow of tears, though seldom of pain, and the change in the system arising from antiphlogistic treatment, and various kinds of counter-irritations, constitutional measures, &c. before and subsequent to operation, it is presumed, a priori, ought to have the effect of checking this morbid action more than the effect of sympathy alone, resulting from the removal of the confirmed cataract.

Another great advantage from the operation was, that the patient could see very imperfectly and had double vision *before* the operation, from the confusion by sympathy resulting from the cataract in the left.

Dr. Ranken enquired whether the disease was entirely confined to one eye.

Mr. Brett said it was incipient in the left.

Mr. Corbyn thought this case evinced admirable management on the part of Mr. Brett, although the eye was found amaurotic immediately after the operation. Mr. B. had confidence in his own success and declared his conviction that after a certain number of days his patient would recover his vision, and such was the result, which speaks volumes as to the judgment and skill of the operator. The symptoms which followed arose evidently from the irritability and disobedience of the patient to the instructions given by the medical attendant; circumstances every medical man has sometimes to complain of as obstacles to his mode of treatment and success of remedies. But there was one circumstance to which he, Mr. Corbyn, was particularly desirous of drawing the attention of the society, and that was the age of the patient. Now, he had a patient of his own, Dr. Meik, of the medical service, who was 82 years of age and had cataract in both eyes. He, Mr. C., recommended that an operation should be performed. Dr. Meik consented, and requested that his (Mr. Corbyn's) friend, Mr. Egerton, should perform it. It was done. Mr. Egerton here interrupted the speaker and said Dr. Meik was only 79.

Mr. Corbyn. So it was supposed by the family. But he begged to say that the age could not be much less than that he had specified, if the period of Dr. Meik's residence in India was calculated. He was a superintending surgeon when he, Mr. Corbyn, arrived in India, and that was now nearly 23 years ago; he therefore fully believed that Dr. Meik was 83 years of age. But to the question. Dr. Meik, previous to the operation, had become extremely fidgetty and was always complaining of want of sight, and his health was much impaired by constant attacks of fever. But the most remarkable circumstance was, that after the operation he became altogether a new man—his sight was restored—his health improved, and he is now quite cheerful and active. Mr. Corbyn concluded by observing that this case, added to the concurent testimony of many, proved that the opera-

tion might with safety and advantage be performed on persons far advanced in life.

Mr. Egerton said that, in allusion to the case to which his friend Mr. Corbyn had adverted, he would observe, that his patient was Meik by name as well as by nature; which, it mustbe acknowledged, went largely to promote the beneficial results to which Mr. Corbyn had alluded. With regard, however, to the case brought before the Society by Mr. Brett, he must acknowledge, that the operation had been ably performed.

Mr. Brett here stated that his patient was General Smith, of the Saugor Division, and that he was particularly desirous of possessing the opinion of the members of the society as to the propriety of the operation at the general's age, and that he would like especially to have Mr. Egerton's opinion as to the action in such cases of hyoscyamus and belladonna as to the advantage of operating when the sight of but one eye was completely lost, the other being only incipient and on the conflicting points of antiphlogistic and stimulating measures, where a highly nervous state of system had supervened approximating to delirium tremens; and, lastly, how far favorable the effect of sympathy might be in preventing the advance of disease in the opposite eye?

Mr. Egerton said, that as to hyoscyamus he seldom employed it, for he had found it quite inert in this country, and therefore useless; but with regard to belladonna he had ever found it a most valuable remedy, and it did not produce amaurosis.

Dr. Goodeve said, that he could not withold the expression of his opinion as to Mr. Brett's treatment of the case, which he considered judicious and highly creditable to him.

Dr. O'Shaughnessy remarked that he had read an account, in Roche's Typographic Medicale, of 150 French soldiers having taken atropa belladonna in a sallad prepared for them. The men became insane, and the majority were also affected with blindness, but the latter effect only lasted 12 hours. Dr. O'Shaughnessy spoke highly of Mr. Brett's treatment of the case before the society, and added that he had seen numerous cases of cataract treated in the Hotel Dieu, but none with greater judgment.

Mr. Brett. The impression upon my mind at the time was, that the temporary amaurosis was ascribable to the belladonna. The pupil contracted on the approach of light. Mr. B. then adverted to the state of the other eye, on which there was only a slight film; but his patient had double vision, that is to say, in his endeavour to distinguish single objects they appeared to him to be double. Mr. Brett desired to know of Mr. Egerton whether he had observed the same.

Mr. Egerton said, that when a person has two lens such is not the effect, but he never operated on a patient when he could see well with one eye: he then fully commented on the organ of vision, which he said was of no use until it had adapted itself to the intellect; in illustration he adverted to the vision of a child. Mr. Egerton added that if the eye is not used, it becomes amaurotic, and repeated that he would not operate if the patient could see distinctly and walk alone.

Mr. Brett said, with reference to the opinion expressed by Mr. Egerton, he would observe that from extensive observation of his own, as well as from the opinion of the most celebrated authors on the subject, in ninety five cases out of a hundred blindness from cataract inevitably follows in the opposite eye, this being the case, the patient obtains a very great advantage, inasmuch as when the sight becomes lost in the second eye he has already been restored to sight in the first eye; so that that he is never for any period blind. Mr. Brett did not agree with Mr. Egerton in supposing that amaurosis would necessarily or generally follow from the want of correspondence: he added that his patient had very confused vision and was anxious for the operation.

Dr. D. Stewart, in allusion to the visual apparatus, spoke of the muscularity of the iris and to the fact that Dr. Roche possessed the power of making it a voluntary muscle. Dr. Goodeve adverted to the remarks which fell from Mr. Egerton; he believed much of the effects alluded to were to be ascribed to too great a refraction of the rays from their being too soon collected into a focus by the crystalline lens and diverging again before they fell upon the retina, they made an indistinct picture upon it. With regard to the accommodation of the eye he believed that the lens itself becomes more convex or otherwise accomodates itself to the distance or nearness of objects.

Mr. Egerton said that when the focus of the eyes differ, a squint is produced, but double vision is not produced; he instanced the case of a patient, Colonel Galloway, who was totally blind of one eye, from a gun-shot wound, but saw well with the other; in the blind eye the lens was perfect, pupil clear, one retina sensible to the light, the other not. The blind eye however exposed to the rays of light contracted, which was occasioned by the stimulus on the other eye owing to a consent of the parts. The pupils of both eyes contract and dilate together, because they were accustomed to do so. Mr Egerton said the squinting person appears to see every person, but really sees no one with the squinting eye. Objects will be seen in the same place by both eyes while they are attentive in viewing any object; if another be brought before the squinting eye, it will be scarcely seen till the eye change its situation and its axis directed towards it; one eye is turned aside while the other is directed to an object. He then added that in cataract when an eye is sound, the eye operated on really sees nothing distinctly, although it appears to do so.

Dr. Goodeve enquired then what was the use of the operation. Mr. Egerton explained that after a time vision was improved.

Dr. O'Shaughnessy said that out of the discussion a question of importance was elicited. Was incipient cataract suspended in Mr. Brett's case?

Mr. Brett said it was, and this was the result in all cases where cataract had reached maturity, the patient would be the gainer by the operation. Beers and others concurred in this opinion.

Mr. O'Shaughnessy said that, according to Mr. Egerton's argument, the other eye would become paralyzed.

Mr. Egerton in reply observed, that he was called upon to operate on a young lady with cataract: he told her it would improve her in appearance but not restore her vision, and so it turned out. The focus differs in young persons. He then again adverted to the squint, and said that it is seldom produced after puberty except from fever, and it was but temporary.

The discussion was concluded by Dr. J. Jackson rising to say that he begged to observe that he considered Mr. Brett to have exercised great judgment and skill in the management of this case, and that the Society were highly indebted to Mr. Brett for this interesting discussion. Mr. Brett then offered his thanks to the meeting for their patient and interesting examination of its merits. The case had been to him a most baffling and trying one.

THE FOURTH QUARTERLY GENERAL MEETING OF SUBSCRIBERS TO THE BENGAL MEDICAL RETIRING FUND.

Monday, 10th October, 1836.

Mr. Sawers, 3rd Member Medical Board, in the chair.

Present Mr. Ludlow, Dr. D. Stewart, Dr. O'Shaughnessy, Dr. Garden, Mr. Mercer, Dr. Bryce, Dr. Goodeve, Mr. Raleigh, Mr. Corbyn.

"Since the last Quarterly Meeting the Committee of Management have been employed in carrying the resolutions then passed into effect. The subscribers to the Fund have been called upon to pay the arrears of their donation and subscription, within 12 months from the 31st day of August last; a circular address to non-subscribers, inviting them to join the Fund before the 31st day of the present month, has been drawn up and circulated, together with a power of attorney for signing the Fund Deed, to each member of the service. The Fund Deed is now ready for signature. The powers of attorney for signing the Deed were sent to the service during the first week of August. Owing to the nature of this document, and that of the Deed not having been fully understood, some parties have held back from returning it duly executed to this office; 140, however, have already come in; and an explanatory notice having been inserted in the newspaper, it is hoped the remainder, or at any rate a great majority of them, will arrive before the period for joining the Fund shall have expired.

With reference to the payment of arrears, a memorandum has been made out, and sent to each subscriber, of the sum due by him on that head to the Fund. Each account has been made out from the statements of payments furnished by the Accountant General; every item of payment having been separately examined. From these causes, and from the hurry in which the accounts have been prepared, errors in some instances have been unavoidable; but the Committee trust they are but few in number; while they are certainly such as must be detected, either by the subscribers themselves or by the Committee, when time shall have allowed the ledger to be duly posted up. H. S Mercer has been elected, to fill the vacancy in the managment, and has duly accepted the office.

Several propositions for altering the rates of subscription have been submitted to the management. Some parties think the rates press heavily upon the junior branches of the service; while others, on the contrary, think, the seniors pay too much; the Committee have carefully considered these propositions, but declined circulating them to the subscribers in the present state of the Fund. When it is fairly brought into operation, any defects in its regulations will become apparent and must be met by amendments; but until then the Committee are convinced any alterations are likely to do more harm than good. And this opinion is justified by the consideration that the Agra Committee, who framed these regulations, consulted the laws and rates of subscription of the similar Indian institutions, and adopted such only as had been proved by experience to work well. They are now upon their trial, if any be found based upon erroneous principles, they will be immediately submitted by the Committee for amendment: but until they are thus proved, it is on every account advisable that they should be suffered to remain undisturbed.

A proposition has been made by two subscribers, Assistant-Surgeons H. Taylor and D. Woodburn, to suspend the operation of the Fund, until the decision of the Hon'ble Court of Directors shall have been received upon the memorial praying that the boon lately granted to the rest of the army may be extended to the Medical branch of the military service. After mature consideration the Committee were compelled to decline circulating this proposition, for the reasons given in their letter in reply to the proposers which was published in the newspapers. They are happy to find that their decision has given very general satisfaction; only one subscriber having expressed himself as desirous that the proposition should be circulated; while a considerable number have protested strongly against it.

The majority of the letters received during the quarter relate to various questions upon the subject of the regulations, and the accounts of individuals who wrote them. As was anticipated, some parties have declared themselves unable to pay up the arrears of subscription within the period stipulated; and to them the Committee, on their own responsibility have granted an extension of time: but some have already paid up the whole of their arrears, and the great majority have made arrangements for doing so.

Three annuities are declared, and others will be offered as the arrears come in.

In the last report the numbers amounted to 175; of these none have signified their intention to withdraw; and as most of them have paid up either the whole, or part of their arrears of subscription, it is not expected that any will do so; while there have been 60 new subscribers during the quarter, and 4, who formerly withdrew before the court's sanction was obtained, have again joined the Fund.

At the last Quarterly Meeting the recoveries on account of the Fund in the Civil and Military departments had been rendered up to the 30th of April last, shewing an amount *(without interest,)* of sicca rupees 78,503 6 7;

to this sum there is now to be added net recoveries in the Military Department for May, June, and July, as the paymaster's and other accounts have been received, Co.'s Rupees 653 4 7 or Sicca Rupees 612 7 4 ditto Civil Department (Revenue) Co.'s Rupees 80, Sicca Rupees 75,—total Sicca Rupees 687 7 4.

In the Agra Presidency Receipts and Disbursements for 1834-35 amount credited is Company's rupees 2054 15 3, or sicca rupees 1965 60, making a total of sicca rupees 81,256 3 11. The expenditure during the quarter has been, for the office expenses, Company's rupees 750 0 0, or sicca rupees 703 2 0, for printing circular, &c. Company's rupees 36 0 0, or sicca rupees 33 12 0—total sicca rupees 736 14 0, leaving a balance in favour of the Fund of sicca rupees 80, 519 5 11.

No statement of recoveries in the Agra presidency for 1835-36, nor paymaster's accounts for four divisions; nor treasury accounts from several districts, have been received: nor have any collections by collectors in the north-western provinces been reported.

Therefore, besides the above sum of sicca rupees 81,256 3 11, there is in the General Treasury due to the Fund, the whole interest upon the collections of the respective years, from 1st January 1833 to the present date, and the recoveries for May, June, and July, of which the accounts have not been rendered, together with the subscriptions for August, and September last, the latter now in course of payment.

Sir Charles Cockerell, Bart, and Co. have been appointed agents to the Fund in England.

Much inconvenience having been caused by the accounts being kept in sicca rupees while all other public institutions have theirs in Company's rupees, the Committee have determined to adopt the latter; an equivalent amount being charged; viz. Company's 106 10 8 for 100 sicca rupees. In this currency, therefore, and at this, the real exchange, the subscriptions, &c. will for the future be calculated. For the present and past years, the rates having been fixed on the lower scale, the following are the sums to be paid in Company's rupees, monthly, by the respective ranks.

	Sa. Rs	Co's Rs,
Members of Med. Board,.....	120	128 0 0
Superintending Surgeons	80	85 5 4
Surgeons,.....	28	29 13 10
Assist. Surgeons, 1st class,.....	16	17 1 1
Do. do. 2d class,.....	10	10 10 8
Do. do. 3d do.....	6	6 6 5

The Committee are highly gratified by the manner in which the call for the payment of arrears has been met; and by the general support they have experienced. As they anticipated, difficulties have arisen in their way, and still exist, but they daily decrease in magnitude; and the vigorous operation of the Fund, will soon convince all parties of its utility and success.

Mr. Pearson now enquired of Mr. Corbyn whether he intended to bring forward his resolution concerning extending the payment of arrears.

Mr. Corbyn said that from several letters he had received on the subject he was satisfied there were a great number of his professional brethren in such straightened circumstances as not to admit of their paying up their arrears within twelve months, he could not for a moment suppose that these gentlemen would on that account be excluded from deriving any benefit from the institution of the fund, he never would believe that the Court of Directors would sanction such exclusion when the fund was not for the benefit of a part only but for the whole of the service, and he never would believe that this fair indulgence would be denied to his Mr. Corbyn's brethren by the present meeting, the more especially as there was nothing in it contrary to the fundamental rules of the society which really opposed the principle of extension. That proposition carried at a former quarterly meeting of limiting the payment to one year was contrary to the spirit of the rules and regulations. He therefore begged to submit the proposition carried unanimously at the meeting of the commitee of management for confirmation of the meeting of the subscribers generally.

Dr. Garden said that he should be obliged to Mr. Corbyn to specify the numbers of medical men who had addressed him on the subject, as the management had only received a communications.

Mr. Pearson said that with the permission of the meeting he would read a letter addressed to the committee of management on this subject; the letter was from Cawnpore, and it stated the wish of the writer and that of many others in that direction to prove an extension of time allowed them to pay up arrears, on account of the difficulty experienced by numbers to pay up within the year.

Mr. Corbyn then said that after what had been read by the Secretary no doubt Mr. Garden would be satisfied as to the necessity of this proposition being carried. His letters contained other subjects besides the one now before the meeting, but he could not then specify their number.

Dr. O'Shaughnessy begged to read a letter he had just received from a friend on this question. The letter not only objected to Mr. Corbyn's proposition but to the statement which appeared in his Journal that the committee of management were unanimous in adopting his proposition which was not correct and calculated to make a wrong impression, and he hoped therefore that the proceedings of the committee on that question might be read.

Here Mr. Pearson read the proceedings which shewed that the proposition had been carried at the meeting, but did not specify the word unanimous Mr. Bramley, who was not present at the meeting, did not concur in the resolution. Messrs. Mercer and Garden, who had voted for the resolution at the meeting, concurred afterwards in Mr. Bramley's opinion. But Mr. Corbyn persisted in the legality of the resolution as being carried at the meeting and contended for its necessity and propriety against the decision of his colleagues.

Mr. Corbyn on the proceedings being read, said that he believed the resolution had been carried unanimously as he had not observed a dissentient voice.

Mr. Ludlow said that he had objected to it, on the ground that such an indulgence would not be just to others who had paid up their arrears.

Mr. Corbyn had thought his objection had been removed, but he maintained that a resolution carried at a meeting of the management should not be altered by the sentiments of gentlemen who did not attend, otherwise there would be no object gained in members attending the meetings.

Dr. O'Shaughnessy said that, while he admitted the want of means in medical men, he thought it would be better to have but one rule to apply to the whole. Those without means might raise them on a loan.

Dr. Goodeve said that it would be advisable to sanction the proceeding of the committee of management who had already extended the period of payment to many, and this would sanction a continuance of that indulgence.

Mr. Corbyn said that if the meeting would adopt such a course he should be most happy to withdraw his proposition as being no longer necessary.

It was therefore moved by H H. Goodeve, M. D., seconded by W. B. O'Shaughnessy, M. D., and carried unanimously,

That the report now read be confirmed and adopted; and that this meeting do more especially approve of that paragraph wherein the Committee state that they have used a discretionary power to permit an additional extension of time to those members, who have proved themselves unable to liquidate their arrears, within the specified period.

The Fund Deed was then signed by all present; and also for 140 members by their constituted attorney.

The thanks of the meeting were then voted to the chairman.

WILLIAM PITT MUSTON, ESQ.

Mr. Muston, besides having succeeded with the Court of Directors in obtaining his re-appointment to the office of apothecary-general, it is rumoured, is to be placed ex-officio on the Medical Board, in order to save the expense of stationery and time which the correspondence between the superintendent of medical stores and the Medical Board requires under existing circumstances.

MEDICAL FUND.

We observe that Drs. Woodburn and Taylor, who were desirous of having the operations of the medical fund suspended until a memorial be submitted to the Hon'ble the Court of Directors, on the subject of the boon, have referred the question to the Agra committee, who have met the reference with that consideration which its importance demanded, and which our esteemed brethren, Drs. Woodburn and Taylor, were justly entitled to expect. We should be glad on all occasions on which public questions are discussed by medical men to observe this courtesy, deference, and temper, by which right conclusions are arrived at and unanimity secured.

We extract the following from the *Agra Ukbar*.

Report of the proceedings of a meeting of the Medical Officers at Agra held on the 20th September, to consider the subject of the above letter No. 1, from Dr Woodburn.

At a meeting of Medical Officers, assembled at Agra on the 20th September 1836, for the purpose of taking into consideration a communication to their address from Dr. Woodburn of Sheerghotty it was generally agreed that his letter contains matter of deep interest; that his opinions if correct demand prompt investigation and support; but if found to be erroneous, equally demand to be speedily answered and refuted.

In discussing this subject, the following questions naturally presented themselves.

1st.—Would a scale of pensions similar to that granted to the Officers of the Army, be more advantageous to us, than our Retiring Fund?—And if we were permitted to exchange the one for the other, ought we to do so?

2nd.—Is it probable that the Court of Directors will allow us to make such an exchange?

3rd.—Although we retain our fund, have we not a reasonable hope of still getting a revised and amended scale of retiring pensions?

4th.—Would Dr. Woodburn's proposal to suspend the operation of the fund, and, if required, to abandon it altogether, increase our chance of having the Boon extended to us?

It was the first general impression of the meeting that the Army Boon if extended to us, with five years' service deducted from each grade, would be more advantageous than the Retiring Fund; and if permitted to make choice of one, and *one only*, we ought to take the Boon and reject the Fund. The unexpected result of the annexed comparative statement has however greatly altered this opinion. This document appears to prove, that although to a small class of Medical Officers the Boon would be more beneficial, yet to a vast majority, it would be the reverse, and that therefore, no proposal to exchange the one for the other (even if practicable) could or ought to meet with general support.

In giving this opinion we do not lose sight of the *important fact* that the profit expected to accrue from our fund will be almost wholly derived from our own contributions; and that the survivors will gain very little more than the amount actually lost by those who die before being entitled to benefit; and this we say without the smallest disposition to undervalue the countenance and support our scheme has received from the Court of Directors.

2ndly.—That it is highly improbable that such a choice will be allowed us, because this would place the Medical establishment of Bengal on a footing entirely different from the services at Madras and Bombay; a measure, it is believed, the Court will never consent to. At these Presidencies Retiring Funds have been too long established, and involve too many interests, to admit of such an exchange as that proposed by Dr. Woodburn.

3rdly.—That although we retain our fund we do not injure our fair and just claims to a revised and improved scale of Retiring Pensions. It is presumed that the Court of Directors admit the justice of our request to be placed on an equality with our military cotemporaries with respect to Retiring Pensions. If this supposition be not conceded, we can hope for no success under any circumstances. When the court granted to the army the new rates of pension, they did not withdraw the sanction formerly given to form Retiring Funds. Such schemes are in fact daily discussed and circulated, and the army has now openly avowed the practice of purchasing out senior officers. If, therefore, military officers, in addition to their present boon, are permitted to form Retiring Funds, or what is precisely the same, to club together for the purchase of steps; and if the court be supposed to favor our claim to be placed on an equality with the army generally; then it is clear that the existence of a Medical Retiring Fund will be no bar to our obtaining such an encrease to our pensions as will place us on an equal footing with our military brethren.

4thly. That for the reasons above stated we are of opinion, that to suspend the operation of our Fund, or to offer to abandon it altogether, would

not improve our chance of having the boon extended to us; indeed we think it more probable that the court will give pensions for length of service *in addition* to the fund than that they will sanction a compromise which would entirely alter the constitution of our service, while the Medical Establishments at Madras and Bombay continued of necessity in their present state.

The agitation of a Medical Retiring Fund has undoubtedly had the effect of retarding promotion for some years past; farther to suspend it, would inflict a great and certain evil on the service, for a remote and most uncertain good. We believe, we have given the above questions a fair and unbiassed investigation; and we would fain hope, that the reasons we have adduced may convince Dr. Woodburn and others who have adopted his opinions, that the step they propose would do us a serious injury; and that the true mode of advancing our common interests, is a general determination to support the Fund, and to join in a temperate memorial to the Court of Directors, praying for pensions proportioned to length of service. This will combine the whole strength of the Medical Establishments of the three presidencies in urging one common and equal claim; while an opposite course would disunite our interests, and might furnish plausible ground for denying the boon to all.

STATEMENT REFERRED TO IN THE ABOVE REPORT.

No. 4

STATEMENT OF THE BENEFIT DERIVED FROM THE MEDICAL RETIRING FUND COMPARED WITH THAT OF THE ARMY BOON IF GRANTED TO MEDICAL OFFICERS WITH 5 YEARS DEDUCTED FOR EACH GRADE.

	Medical Fund, half value of the annuity being paid for.	*Will give*	*Boon.—5 years being deducted for each grade—togother with the amt. of an annuity purchased with the same which would otherwise be paid to the Fund.*	*Will give*
(1) Members of the M. B. entitled to full pension, and having served 33 years including 3 years furlough.	Pension ..... £700 Fund..... 300 Total..... £1000		Pension..... £700 Annuity as above..... 150 Total..... £850	
(2) Superintending Surgeons entitled to full pension, having served 33 years,	P.....£365 F ..... 300 Total... £665		Colonel's Pension..... 456 Annuity... ..... 150 Total..... £603	
(3) Superintending Surgeons entitled to minor scale of pension—having served 33 years.	P..... £300 F.. ..... 300 Total..... £600		Colonel's Pension..... £456 Annuity..... 150 Total..... £606	
(4) Superintending Surgeons entitled to full pension before they have completed 33 years service.	P.... £365 F..... 300 Total..... £665		Lieut. Cols. P..... £365 Annuity..... 150 Total..... £515	
(5) Superintending Surgeons entitled to minor scale of pension, before they have completed 33 years service.	P.... £300 F.. ..... 300 Total.. £600		Lieut. Cols. P ..... £365 Annuity..... 150 Total..... £515	
(6) Medical Officers who have served 28 years and less than 33, without being entitled to pension of Supg. Surgeon.	P.. £192 F.. ..... 300 Total.. £492		Lieut Cols. P ..... £365 Annuity..... 150 Total..... £515	
(7) Surgeons having served 23 years and less than 28 *entitled to the benefit of the Fund.*	P.. £192 F.. ..... 300 Total..... £492		Major's P..... £292 Annuity..... 150 Total..... £442	
(8) Surgeons of 23 years service and less than 28, NOT having got the offer of the Fund.	P.. £192 F..... Total.. £192		Major's P. £292, with the cash in hand, which would otherwise have been paid to the fund in monthly subscriptions.	
(9) Surgeons who may get the offer of the Fund *any time* between 17 and 23 years service.	P.. £192 F..... 300 Total..... £492		Captain's Pension..... £192 Annuity..... 150 Total. £343	

N. B. The case of Surgeons who may have exceeded 33 years service, without being entitled to the Pension of Superintending Surgeon, was also considered; but it was observed that in the Army List, none such exist now, and therefore cannot be looked for, if we had the assistance of the Fund to accelerate promotion.

NOTES.

The above table appears to include all cases that are likely to occur. I have assumed that the sum to be paid as half value of the annuity granted by the fund, would purchase an annuity of an EQUAL amount from an Insurance Office. This would certainly *not be the case*, and therefore the calculations give an undue advantage to the Boon. In the Civil Fund the half value of the annuity of £1000 was originally calculated at Rs. 40,000. I believe it now costs *very much less*.

On the other hand it should be remembered that he who does not subscribe to the fund runs no risk

of losing money by his death; but to the seniors the amount thus risked is in reality not great, and the subscriptions of the juniors are so small, and collected in so gradual a manner, that they could easily be met by a trifling degree of economy, and if lost by death will be found hardly to diminish the amount of the Estate. In classes Nos. 1, 2, 4, 5, and 7, the Fund has a decided advantage over the Boon—in class No. 3, the Boon exceeds the Fund by £6—but it may be expected if the fund were in full operation that this class would scarcely exist. In class No. 6, the Boon exceeds the Fund by £23—and in No. 8, by £100—but in class No. 9, the scale turns the other way, and the Fund exceeds the Boon by £150.

The whole question chiefly turns on the opinion which will be formed respecting these two last classes. Those who seriously think that the fund pension will *not generally* be available to Surgeons of 23 years standing will see reason to prefer the Boon, but all who believe that they may reasonably expect to get the offer of the fund before they shall have served 23 years will stick by the fund and will not exchange it for Boon even if granted on our own terms.

In the *Agra Akbar* of the 15th October is another admirable letter from "Specific," from which we extract the following, shewing the great benefit to be derived from the institution of the fund.

"The probability that the operation of the fund would *double* the number of retirements I shall not however insist on any thing approaching to this. All I ask is to be permitted to assume that the fund will diminish the time required to rise from the *bottom* of the list of Assistant Surgeons to the situation of 1st member of the Medical Board by 7 years; or in detail, that it will accelerate promotion by 3 years to the rank of Surgeon, by 3 years to that of superintending surgeon, and by 1 year to the Medical Board; this I think all must allow to be a sufficiently moderate assumption. I have taken this number of years not because I think it nearest the truth, but to show the great benefit of the fund under the least favorable circumstances, where there is no room for cavil. The differences, between the pay and allowances of a surgeon and asst. surgeon is St. Rs. 294 a month.—3 years of this difference gained by the operation of the fund, will give Rs. 10,584;—again we have supposed that the class of superintending surgeon is attained 3 years sooner than otherwise it would, and taking Rs. 1196, to be the difference between the allowances of a superintending surgeon and surgeon, this will add a further sum of Rs. 43056; thirdly, the difference of pay &c. for 1 year, which we have supposed gained, between the member of the Medical Board and superintending surgeon, calculated at 1000 Rs. a month, will give us 12000 Rs. more; making a total of Companys Rupees 656101! This however is not all, for be it remembered that the Company's Pension of £700 per annumhas been obtained 7 years sooner by the fund—this will enable me fairly to add 7 years of the difference between £365 per annum, the superintending surgeon's pension and £700 - the pension of the Medical Board, equal to about 23450; and all this is over and above the Funds additional annuity of £300!!! All these gains exclusive of the £300 Fund Pension amount to Rs. 89,090.

Now let us see what is to be paid for all this, and in doing so, I shall find it most convenient to give the results in a tabular form. I have discarded interest on both sides of the accounts which will render the statement less complicated without much affecting, and certainly not prejudicially, the anti-fund side—the per-contras of the question. I shall make two calculations, one for 43 years service, and the other for 36, the latter period being the exact standing of the present first member of the Medical Board. Again let me here explain that I do not fix on 43 years as the probable time for going through the whole service assisted by the agency of the fund, but only to compare with the gain the total amounts contributed under circumstances requiring the largest possible contributions. I shall also calculate for 36 years, and Table 3d and 4th following, will show the balance of gain for these periods."

TABLE 1ST.

1 Year's subscription in 1st grade of Assistant Surgeon,							a	6=	72	0 0
6 Years	ditto	in	2d	ditto	ditto,		a	10=	720	0 0
8 Years	ditto	in	3d	ditto	ditto,		a	16=	1536	0 0
15 Years	Total Subscription as Assist. Surg.—Rupees								2328	0 0
14 Years	ditto as Surg,						a	28=	4704	0 0
9 Ditto	ditto as Superintending Surgeon,						a	80=	8640	0 0
5 Ditto	ditto as Member Medical Board,						a	120=	7200	0 0
48 Years.—Total Subscription,									Rupees 22872	0

The following is a table calculated for 36 *years.*

TABLE 2ND.

1 Year's subscription in 1st grade of Assist. Surgeon,							a	6=	72	0 0
5 Ditto	ditto	in	2d	ditto	ditto,		a	10=	600	0 0
6 Ditto	ditto	in	3d	ditto	ditto,		a	16=	1152	0 0
12 Years.—Total Subscription as Asst. Surgn. Rupees									1814	0 0
13 Years as Surgeon,							a	28=	4368	0 0
6 Ditto as Superintending Surgeon,							a	80=	5760	0 0
5 Ditto as Member Medical Board,							a	120=	7200	0 0
36 Years.—Total Subscription,									Rupees 19142	0 0

TABLE 3RD.

Total gain by promotion as shown above,	Rupees	89090	0 0
Deduct actual payment to the fund in 43 years,	Rupees	22872	0 0
Balance		66218	0 0

TABLE 4TH.

Total gain by promotion as above,	Rupees	89090
Deduct actual payment to the fund in 36 years	Rupees	19142
Balance,	Rupees	70948

*** N. B. This balance is in addition to the Fund Pension of £300, which alone might be valued at Rupees 80,000!!!

MEMORIAL FOR THE BOON.

Superintending surgeons of the distant divisions of the army having thought it advisable to collect the names of members of the service, in preference to individual communication, the memorial will not be forwarded until the 14th or 15th of the present month.

STAFF ALLOWANCE TO REGIMENTAL SURGEONS.

The following is the reply of the Government to the memorial, published in our journal last month.

TO THE ADJUTANT GENERAL OF THE ARMY.

Military Department.

SIR,—I am directed to acknowledge the receipt of your latter No. 568, under date the 1st inst., transmitting by order of the Commander-in-Chief, with a minute on the subject by his excellency, a memorial addressed to the Right Honorable the Governor General of India in Council, by the medical officers of the Cawnpore Division, praying for the reasons therein stated, that regimental medical officers when absent with leave, either for the recovery of their health or on account of their private affairs, may be allowed in like manner as officers of the general or regimental staff, to draw a moiety of their staff salary.

2d. Regimental medical officers being merely attached to corps, are removable from them at pleasure whenever their services are otherwise required, and consequently it cannot be admitted that their case is analogous to that of permanent staff officers, whether general or regimental, nor does it appear that such a claim has ever before been advanced.

3d. The 'consolidated medical staff salary' granted by the Hon'ble the Court of Directors in lieu of the 'superior batta' which has been substituted for the 'medicine allowances' previously received by regimental medical officers, is claimable only for the period during which the prescribed medical charge has been actually held, and in this respect resembles the allowance attached to the command of a corps which is not claimable save by the officer who actually exercised command for the period in question.

4th. Under this view of the subject the Governor General of India in Council considers himself precluded by the orders of the Court of Directors from complying with the prayer of the memorialists, but his Lordship will agreeably to their desire submit the question for the decision of the Hon'ble Court.

I have the honor, &c.

(Signed) WILLIAM CASEMENT, *Colonel,*
Secretary to the Government of India,
Military Department.

Council Chamber, 15th August, 1836.

If such are the conclusions to which the local Government arrive, it is obvious that medical men should be paid according to length of service instead of the present mode. There might then be some ground on which to offer objection to the reasonable claims of the medical service; particularly when it is remembered that the surgeon has no intermediate step between the rank of captain and lieutenant-colonel, and continues on the pay and allowances of captain for upward of 30 years. We should have thought that he is placed more in the position of general or regimental staff appointments than that of officers in command of regiments. But if not analogous to that of permanent staff officers, his claim would then become the stronger; because the intermediate period occupied in quitting one regiment and joining another is passed without any medicine allowance whatever. Moreover the assistant surgeon does not receive the full 300 staff allowance which a lieutenant would, had he the command of a regiment, Here then is a difference.

We are of opinion that a memorial, containing an appeal on such an important subject, should not have been limited to one division of the army; and we are sorry that it has been forwarded to the Directors. We hope, as it is not too late, to see it re-considered by thewhole medical service in all India and taken up in all its bearings. We do not think the Governor General is opposed to the claim; the last paragraph of the Secretary to the Government's letter expressly states that his Lordship is precluded from granting the prayer of the memorial by the orders of the Court of Directors.

THE LATE SICKNESS AND MORTALITY AT PALEE—SICKNESS ALSO PREVAILING AT JOUDPORE AND ROHILCUND.

We have been obligingly favored with a communication on the above subject from Capt. Dixon. We are glad to learn that Dr. Maclean has proceeded to Palee; and, he being a physician of considerable talent and research, we are led to anticipate from him a very valuable paper, which we shall not hesitate to lay before our readers. In the mean time we may mention, that intelligence has been received by the first authority, that the disease at Palee is not the plague, neither is it contagious. Capt. Dixon men-

tions that there are reports that extensive sickness prevails at Joudpore and various other towns in Marwar. In Rohilcund a remittent fever also has prevailed to an alarming extent. We have no doubt, however, that, on the approach of the cold season, the whole will disappear.

MR. SUPERINTENDING SURGEON HOUGH'S VALUABLE REPORT ON THE STATE OF VACCINATION.

We feel ourselves under many obligations to Mr. Hough for his able report on the above subject, which he has just printed in the form of a pamphlet for the information of the authorities, and which he has permitted us to publish in the same form for the information of our professional brethren. The report merits the fullest consideration of the Government; and if the suggestions therein are adopted, we are satisfied that there will be but one feeling throughout India—that the act of preventing the devastation and misery which small-pox occasions, cannot be surpassed by any other for its humanity.

PROGRESS OF THE MEDICAL FUND.

It is with great pleasure we announce that the number of new subscribers has increased to about 70. When we consider that nearly 37 members of the service (non-subscribers) are absent and on sick leave, the success of the fund, it must be acknowledged, has been great; but we cannot look upon that resolution carried at the Quarterly Meeting in Aug. which made it compulsory on members of the service to signify their intention to join the fund previous to the 31st of Oct. 1836, other than arbitrary and illegal. We shall certainly propose that it be erased from the records, and that gentlemen be permitted to join at any time they may deem it convenient to do so as is the case in the Military Fund.

GENERAL ORDERS.

Appointment.—Surg. H. Guthrie, civil station Barielly.

Leave of Absence.—Surg. B. W. MacLeod, M. D., to 30th Sept. Mussoorie.

Promotion.—Oct. 10, Asst. Surg. E. J. Yeatman, M. D., to surgeon.

Extension.—May 1836, Surg. A. Scott, Dr. J. F. Royle, for six months.

Retirement.—Surg. J. Hall, from 9th Feb. 1836.

Resignation.—Oct. 10, Asst. Surg. W. E. Watson, from sailing of the ship *Orient*.

TO CORRESPONDENTS.

The following papers will appear in our next.

Mr. Jackson's (surgeon, 10th Light Cavalry) case of extensive wound of the tongue.

Dr. Dunbar's Observations on the Topography of Dorunda or Chota Nagpore.

Dr. Jackson's (H. M. 6th Foot,) report on Fever, with remarks on the health of European Troops at Deesa.

Dr. MacKinnon on the cure of leprosy.

Mr. Brett's continuation of Sedillot's valuable paper on luxations.

We beg to acknowledge Dr. Henderson's communication from Delhi, also that of Dr. Spencer from Moradabad.

We shall pay particular attention to the advice given us by Dr. Bayfield of Ava. Some irregularity must have occurred by ships not touching at Rangoon.

We have been favored with our friend Dr. Dempster's communication from Moulmein. We are glad to receive such favorable reports of the healthiness of that station.

Dr. Duncan has kindly favored us withhis communication; his wishes shall be complied with. We have numerous complaints regarding the transmission of our journal by the steamers; but we trust the new post office regulations will soon be published to render that conveyance no longer neccssary.

We have many complaints from our Bombay subscribers regarding the receipt of our journal: we beg they will advise Mr. Malvery of Bombay of change of residence, when all irregularity will be removed.

THE OPINION OF THE INDIAN PRESS.

THE ENGLISHMAN,—*June 2d*, 1835.

„Messrs Grant and Pearson have abandoned the editorial vocation, bequeathing it with all its cares and honors to Dr. Corbyn, a gentleman of whose writings we have seen enough to satisfy us that the seceding parties have provided their readers with a worthy and fitting successor."

THE ENGLISHMAN,—*Friday July 3*, 1835.

" If Mr. Corbyn proceeds thus in his editorial vocation, there is no fear but that he will go on and prosper, and that his work will long continue, what its name proclaims it to be, *The India Journal of Medical Science*.

THE ENGLISHMAN,—*Monday, April 1st.* 1836.

Page 644. " We should do great injustice to Dr. Corbyn's industry and zeal were we to omit to bestow some attention upon the pretensions of the *India Journal of Medical Science* for the present month. The worthy editor has evidently been excited by the threats of the Medical and Physical Society to publish a Journal of their own, and, in a spirit of defiance, which we are disposed to admire, because it accords with our own notices of what should be the tactique on these occasions, produces a periodical unrivalled, and, we believe, unrivallable in India, for its variety and intelligence."

THE BENGAL HURKARU—*Tuesday, 4th August*, 1835.

The Medical Journal under its new management is still conducted with the spirit and ability which have characterized it from its commencement, and is amply supported by contributors. We had intended to notice one or two papers in the number for August to-day, but our time has been so occupied that we are unable to fulfil that intention. We will not delay, however, the following intimation of an arrangement made by the new editor Dr. Corbyn, which cannot fail to enhance the value of the work.

THE HURKARU.—*Wednesday, 6th April*, 1836.

Upon the whole this is an excellent number of the *India Journal* and highly creditable to the editor.

CALCUTTA COURIER.—*2d November*, 1835.

The *Journal of Medical Science* is now a periodical so well established, that the public will look out for its regular monthly appearance without waiting for information from the daily press.

THE AGRA UKHBAR,—*Saturday, 31st October*, 1835.

Were our punctuality equal to that of the periodical in question, we should ere now have noticed the October Number of the *Journal of Medical Science*. Our delay, however, has improved our opportunties of becoming acquainted with its contents, and the result is that we like this periodical more and more. The tone in which it is conducted is honest, earnest, and unaffected, so much so, that the object is utility—the philosopher's stone of the present age.

Saturday, 28th November, 1835.

The *India Journal of Medical Science*, for the present month, is more than usually interesting. Is is strong in original communications and purely professional matter of an importance and character, that well warrants the editor's " lofty terms " of the triumphs " of surgery in India," and affords gratifying indications of the high and stirring tone now abroad among the members of the profession in a great measure, unquestionably through the influence of this most useful, though unpretending periodical.

Saturday, 20th February, 1836.

The well established character of the *India Journal of Medical and Physical Science* places it alike beyond the necessity and the influence of newspaper approbation.

Saturday, 28th May, 1836.

Dr. Corbyn's rapid improvement in his rising periodical, the *India Journal of Medical and Physical Science*, outstr ips almost the resources of our laudatory vocabulary, whose culture receives so little impulse generally from other quarters, as to make useful, what we never before had occasion to discover, our poverty to praise. In the present number for May, the original matter and the editorials especially, claim our commendations.

THE DELHI GAZETTE.—*Wednesday, 17th February*, 1836.

We hail with satisfaction the appearance of the *India Journal of Medical and Physical Science*, which contains a larger quantity than usual of interesting original intelligence, besides valuable selections made with great truth and judgment. Despite of vexatious opposition, the numbers are invariably attractive, and its talented editor is well worthy of praise in his landable exertions to diffuse scientific information among the Medical fraternity.

Wednesday, 21st October, 1835.

It is but seldom that we hail the arrival of any periodical with more satisfaction, than that of ' *The India Journal of Medical Science*," in as much as it is not only an exceedingly interesting publication, but, what is of more importance, it must prove pre-eminently useful to that class whose good cause it so invariably and strenuously advocates.

THE MEERUT OBSERVER.—*Thursday, 20th August*, 1835.

Number 20 of the *India Journal of Medical Science* is before us, and we are glad to see this useful publication continues in full vigour.

Thursday, 17th December, 1835.

The Journal of Medical Science contains the usual quantity of matter, highly interesting to the profession.

Thursday, 17th December, 1836.

The March number of the *India Journal of Medical Science* is before us, containing more than the usual quantity of professional matter, and several additions, on subjects of general interest.

THE MADRAS HERALD, *21st September*, 1836.

We are glad to find that the present numbers fully sustain the high character which Mr. Corbyn's Journal has acquired.

Mr. Corbyn's Journal is also valuable to the Medical Service throughout India, by offering a ready and appropriate means of communicating to the profession any discoveries which they may meet with in the course of their practice: and thus extending the sphere of their usefulness, as far as the almost unlimited influence of the press is recognized.

THE MADRAS MALE ASYLUM HERALD,—*Wednesday, 13th April*, 1836.

We have received the February Number of *The India Journal of Medical and Physical Science*, edited by Frederick Corbyn, Esq; a work whose growing value is best spoken in its long subscription list and in its forming, as we believe it does, but undoubtedly as it ought to do, a regular attendant on the table of every member of that interesting profession throughout the Country. The number now before us comprises sixty well filled pages, and its spirited and able conductor promises that these shall be increased.

CALCUTTA CHRISTIAN OBSERVER.

We have watched with much interest the progress which our excellent friend, the editor of the *Medical and Physical Journal*, has made in the matter and arrangement of his pages. Nor has the least part of pleasure been associated with the fact, that the cause of temperance, charity, and piety have found an advocate in its editor, and a place in its columns.

Dr. Corbyn ably pursues his indefatigable exertions.

COPY OF A SPECIAL REPORT

ON THE

STATE OF VACCINATION

IN THE

SAUGOR AND NERBUDDA TERRITORIES, FOR 1835-36.

By H. Hough, Esquire.

Superintending Surgeon, Saugor or 7th Division of the Army.

1st.—After a variety of attempts which were made by Dr. Irvine, the medical officer in charge of the civil station and troops at Hussingabad, from the month of April, 1835, to the end of the rains, for the purpose of endeavouring to regenerate the vaccine disease by inoculating cows and bullocks freely, from fresh confluent variola, which failed; and after having failed to introduce vaccination generally, by the ordinary means; the season unfavorable for the transmission of the virus passed away; when, a supply of good lymph was directed by the Medical Board to be forwarded to Saugor by the superintendent general and the superintendent of vaccination at Benares. The latter officer was directed to forward a fresh supply of vaccine lymph to Saugor once in every fortnight; and this was done for sometime; so that, by the middle of December, vaccination was becoming general. Nevertheless, antecedently to this period, vaccination had been re-established at Hussingabad in the beginning of October from lymph which Dr. Irvine had received from the Presidency of Bombay, and no less a number than 153 successful cases were reported by that gentleman to the superintending surgeon of this division as having been collected by him in the first month; a roll of which was forwarded from this office to Mr. Secretary Hutchinson, on the 22nd November last.

2nd.—From that period to the close of the last cold season vaccination has been spread over the district from Saugor to Huttah, Rehlie, Nagound, and Jubbulpore, on the northern boundary of the Saugor and Nerbudda territories, from west to east; and on the southern boundary from Hussingabad to Gurrawarra and Seonee in the same direction, and as many as 1803 children (inclusive of vaccination occurring in the corps in the division) have been vaccinated by the superintendents Drs. Spilsbury and Foley, and also by Dr. Irvine and Mr. Assistant Surgeon Garbet; and the following is the substance of the reports of those gentlemen as to the state of vaccination during the past six months.

3rd.—Abstract of correspondence from the Medical Staff of the Saugor Division on the subject of vaccination.

JUBBULPORE,—DR. SPILSBURY.

January, February, and March.

1st.—Failure of all the vaccinations by Mr. Assistant Surgeon McDonald of the 29th Regiment Native Infantry, and by the native vaccinator; consequently no lymph or crust.

2nd.—Accounting for the little success of vaccination at Jubbulpore from the absence of Dr. Spilsbury on duty.

3rd.—On the approach of hot winds vaccination invariably ceases to produce any effect. No supply of crust or lymph of any use during that period or the rains.

4th.—Prejudices of the natives against vaccination,—they consider it an act of irreligion. No prospect of its diffusion generally, so as to afford reasonable ground of its being kept up in that vicinity.

March and April.

5th.—In March and April a sufficient number presented themselves to keep up a supply; towards the end of April the virus deteriorated, and in May the reports were blank.

6th.—No person unconnected with Europeans allowed himself or family to be vaccinated.

7th.—The prejudices of the natives give little field for zeal or activity.

8th.—Small pox raged considerably, great mortality among children. Among numerous children, vaccinated during the last twelve years,' several modified cases of small pox appeared, all of a very trifling nature.

JUBBULPORE,—DR. SMITH,

33*rd Regiment Native Infantry.*

March, April, and May, 1836.

9th.—No application for vaccination; no case of small pox.

GURRAWARRA,—DR. SIMPSON.

April.

10th.—Vaccination failed; the supply of crusts and lymph received from Dr. Irvine produced spurious pustules. Weather too hot for success; no case of small pox.

BAITOOL,—DR. BARKER.

January, 1836.

11th.—No vaccination, requesting a supply of lymph, (complied with).

June.

12th.—No native vaccinator; native doctor cannot spare time to visit the villages, and the people will not bring their children to cantonments to be vaccinated.

13th.—Small pox prevailing very little.

HUSSINGABAD,—DR. IRVINE.

January.

14th.—Case of confluent small pox during vaccination ; disease not at all modified, though the vesicles came to maturity.

March.

15th.—Vaccine virus deteriorated on approach of hot winds. No supply of lymph.

April, 1836.

16th.—No lymph, doubts of success ; all attempts to establish vaccination during the hot season having failed.

17th.—Supply of subjects for vaccinations scanty, all the villages near Hussingabad having been vaccinated.

18th.—Two cases of mild distinct small pox occurred in the persons of two children; one vaccinated in October, the other in March last. The parents destroyed the vaccine vesicles at the time.

HUSSINGABAD,—MR. ASSISTANT SURGEON WATSON.

June.

19th.—The natives averse to have their children vaccinated during the rains. A sufficient number at present to keep up the virus. Native vaccinator zealous and active ; small pox not prevailing.

20th.—The returns of vaccination for July are blank. Saugor is the only station where vaccination is going on at present, in this division.

4. From the accompanying* numerical abstract of vaccinations within the Saugor and Nerbudda territories within the last ten months, it should seem, that, as compared with* population returns of these districts of the years 1832-3,—that, the relative proportion of vaccination to population was, during the period alluded to, not less than one in 1100, supposing the population to have remained nearly stationary during the last 4 years.

5. The number of vaccinations, exhibited in table No. 1, of the appendix to Dr. Cameron's report on vaccination, from the year 1819 to 29 inclusive, as furnished to the Medical Board in 1831 on an average of ten years, or from 1818 to 28, were 273,890 ; and this number of vaccinations having taken place among the whole of the population of Bengal, and provinces dependent upon this presidency, from the Delta of the Ganges, to Simla and the western provinces, comprehending a population which, being considered as comparable in equality with the census of the provinces of Bengal, Behar, and Orissa as given by† Mr. Henry Colebrooke in 1802, and stated at that period to be from 28 to 32 millions, would assign an aggregate population of vaccination to population during those ten years, to have been so little as 1 to 1500 nearly.

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* Vide appendix to this report.

† Commerce and husbandry of Bengal 1802.

6. Whereas it should appear that the very first attempt to re-establish vaccination in the Saugor and Nerbudda territories was attended with the greater success of one in 1100 of the population of these districts.

7. This result is the more surprising, since Mr. Superintending Surgeon C. Campbell, in his report on the subject (30th September 1830), especially remarks, that, "with respect to the security afforded by vaccination, I need hardly state, that it is only among the children of native officers and sepoys at military stations, it is possible to carry the practice to any extent in these provinces." "In some instances the more intelligent chiefs, in the vicinity of the political residencies, have submitted their families to the process; but the general apathy, which exists on the subject among the great body of the people, has been always such as to defeat every attempt to propagate the preventive disease, or to keep it up throughout the year; and, it may be safely assumed, that, in most of the districts from which the following information has been collected, vaccination has never been practised. Inoculation with variolous matter appears to be as little employed." (Vide page 28 appendix to Dr. Cameron's report, 1831). Whereas the practice of vaccination in the last year, instead of being confined to the "children of native officers and sepoys at military stations," has been almost exclusively confined to the population of towns and villages, as the monthly returns of corps respectively since the month of October last year, so remarkably evidenced in the fact, that the total of vaccinations, occurring in ten corps comprising this division of the army, did not exceed twenty-three cases, or little more than one-hundredth part of all the vaccinations, which is a complete refutation of Mr. Superintending Surgeon C. Campbell's observation, as stated in the 3rd paragraph of that gentleman's letter, dated 30th September, 1830.

8. The number of vaccinations, reported by the National Vaccine Board in March 1831, to Lord Melbourne, appear to have been about one vaccination to one hundred of the population, putting that of the London districts at 1,600,000, as is thought to be the case; and putting the poor at three-fourths of this amount, or 1,200,000, we arrive at the above conclusion. It may be fairly supposed that the remainder of the population would give 4000 more, or assuming that the annual vaccinations not only in the London districts, but generally throughout the entire of the British dominions in Europe, to average one per cent of their population; and this would suppose certainly no smaller annual vaccination than of 250,000 children; or, nearly ten times the proportionate average of vaccinations in an Indian population of forty millions and upwards.

9. So, that, Mr. Cameron's statement at page 18 of the report, that "the tables 1 and 2 in the Appendix shew that in the course of eleven years between 3 and 4 hundred thousand persons have been vaccinated in Bengal," (had it been really confined to Bengal proper,) would have been a matter of little con-

gratulation to the Government, but, when applied to the whole of the provinces under the Bengal presidency, seems to be any thing but a subject affording much satisfaction.

10. At page 64 of the appendix to the report, it appears that, from the general amount of 5,182 cases of variola occurring in 1830, in the northern division of Moradabad, 3,585 cases recovered, and 1,597 proved fatal; or, the fatal cases were about 30 in 100 of all cases of variola that occurred in that year, and that the mortality among variolous patients in the town of Nuggeenah alone, out of 1,266 cases, 854 only recovered and 412 were fatal. And as my own experience has more than 23 years back confirmed similar results, nearly, as occurring at Seharunpore in 1813-14-15 and 1816, or, the northern division of the zillah of Meerut containing about 5, or, 6,00,000, inhabitants; a similar proportion of mortality occurring among a like proportion of cases of small pox in the Saugor and Nerbudda territories, would raise the number of deaths from this cause to nearly 20,000 casualties in some years; or to ten or twelve times the number of the greatest extent of vaccination that seems hitherto to have attained in these parts.

11. And because it may be assumed, that the population of Saugor &c. is spread over at least double the area that Munneepoor presents, it may suffice to assign 75 (or half the vaccinations per mensem performed by Mahomud Nazeer at that place in 1830), and for 7 months this would give about 500 vaccinations annually to each native vaccinator; so that, in order to give vaccination a full operation in so large a territory (nearly 40,000 square miles, or half as much more area as Ireland's surface), it would be requisite that the establishment of native vaccinators alone ought not to fall below 40 for the whole of the Saugor and Nerbudda territories, *i. e.* to give vaccination as great activity as it obtains in the United Kingdom. It is scarcely necessary to observe, that, vaccination to be performed effectually, and to be properly superintended in districts containing twenty lakhs of inhabitants and covering a surface exceeding that of Ireland, ought to have at least as many vaccinators as is above indicated, and that there ought not to be less than 3 superintendents, whose duty it should be to travel among the villages within their respective circles from the 1st of November to the 30th of May in each year.

12. To conduct the duties of so important a branch of the medical department, as vaccination is, in an efficient manner, no doubt some considerable expense must be incurred; and as the home authorities have limited the amount of the charge on this account, and as the sum so limited is totally inadequate to produce any result of sufficient magnitude to accomplish the object for which it is granted, some other mode than that of depending on the public treasury ought undoubtedly to be resorted to. The Right Honourable the Governor General, recently, in the reply of his lordship to Mr. Martin's letter on the subject of a fever hospital in Calcutta, took occasion to allude to the

propriety of the natives entering into charitable subscriptions, as the gentry of England are accustomed to do. In approaching a subject of so delicate a complexion, it is necessary to do so with all possible deference to the high authority alluded to; but yet, a residence among this people for a period nothing short of a quarter of a century has not served to shake the opinion, that the population of Hindustan is not quite so advanced in civilization as was that of France in the days of Colbert; and that the Hindus, it is humbly imagined, of the present day, are by no means properly prepared to say to the Government " laissez nous fairi."

13. At the end of the appendix will be found the outline of a plan for the extinction of small pox drawn up by Dr. Foley, by the desire of the superintending surgeon of the division, which, it is hoped, will not be unacceptable to the Medical Board.

14. Dr. Foley's system of propagating and keeping up vaccination is so judicious and successful, that I am confident that the Board will feel disposed to attach weight to the opinions of that gentleman.

15. Saugor is the only place, now, in which vaccination is going on, and I have little doubt that Dr. Foley's exertions will enable him to carry on the practice to the cold season; when supplies of lymph may be forwarded to the distant parts of these districts, and thus renew the vaccine inoculation at every station and post within this circle of superintendence.

APPENDIX.

It is relevant to the subject to quote a portion of the 4th paragraph of the report of the Vaccine Board as made to Lord Melbourne in March 1831: "it is impracticable to keep up a continued supply any where, but in the capital; where numerous appointed vaccinators assist and support each other." Since the great distance from one station to another, in these extensive districts and territories, may serve to account for the failure of vaccination in some instances; while the apathy of the natives, assisted by an uncontrollable conduct towards their children, cannot fail of eliciting the approbation of the Board of the zeal and able management which have enabled the superintendent of vaccination at Saugor, to keep up vaccination to the present time, with so many obstacles opposed to him as are known to exist everywhere, and as are reported by the medical staff at the different stations as stated in the abstract of reports to this office on this subject.

A complaint was made to the superintendent surgeon, during his tour last year, that the zeal for vaccination of the medical officer at Hussingabad had so far alarmed the inhabitants of some of the villages as to cause them to desert, and this circumstance led to the publication of a proclamation by the local

civil authority at the station of Baitool, declaring that no vaccinating officer would be permitted to disturb them.

There is some reason to think that this alarm was in a great degree similated for some sinister design; since this statement very little quadrates with the satisfactory and peaceable progress of vaccination on the northern side of the Saugor and Nerbudda territory; and which, if it deserve any particular attention, might serve to point to a too sanguine desire to acquire a reputation for activity and zeal in the prosecution of this very valuable practice; and at the same time to demonstrate, that the even-handed and judicious method of treating the rural population of the northern portion of this district, has not only been productive of the happiest results; but has served to indicate the necessity there exists of selecting such agents as are properly qualified to deal successfully with the prejudices of the rural population more especially.

This last observation will be considered to be of no little weight when the scale of expence or strength of establishment is fixed at a mininum.

In the 3rd paragraph of the report of the Vaccine Board of Great Britain in deprecating the abandonment of vaccination to the discretion and good sense of the public, and predicating of such a determination on the part of the legislature as a means of leaving " the country unprepared and unprovided with means of defence, and that a great mortality from small pox would be an early consequence of the breaking up the establishment," decidedly recognises in the establishment of vaccination in perpetuity and efficient activity a '*Cordon Sanitaire*' a '*Prophylaxis*' *against Pestilence;* and, that anything short of an efficient establishment would not be preventive of such a scourge as small pox has ever proved in all countries, and which, often occurring in Hindustan in the form of a malignant epidemic, is a matter that most nearly concerns the state. And if, in the report of the Vaccine Board to Lord Melbourne in 1831, the fact could be brought to his lordship's notice that " numerous appointed vaccinators assist, and support each other," among a dense population far inferior to that of these very extensive and thinly peopled territories; how, it may be asked, can it be reasonably expected, that eight native vaccinators shall be able to fulfil the intentions of the Government, however active and zealous they may be, when their services are demanded by two millions of people spread over a surface of nearly 40,000 square miles?

The tact and discernment, which are indispensably necessary for superintending the operations of the native vaccinator, are alike demanded in the selection and training of the inferior agents of this important branch of the vaccine establishment. It should seem that the appointment of any native doctor, to such a charge, without reference to the *sine qua non* condition, steadiness, intelligence, and versatileness, would be totally inadmissible; if such a course, even, were not obnoxious to the very serious objection—that of

rendering the military branch of the medical department inefficient, in many instances.

It cannot be questioned that, for a long period, the Government itself must take the lead in all matters of great moral movements, and, although the prophecy of Burke could not be easily realized in the present day, there can be little doubt that we have not as yet fulfilled all the conditions required by a modern political writer of celebrity, who, in pointing to the period at which Hindustan would be able to dispense with the civilizing aid of an European state, observes, " Arrivées à ce point ni l'Angleterre, ni l'Europe n'ont plus bésoin de la souverainitié de l'Inde*."

The necessity there is, then, for the Government to support an efficient system of vaccination being indisputable; and the scale on which vaccination has been hitherto conducted from its first introduction into India to the present day, being found to be quite inadequate to the end proposed; the means necessary for a proper support of vaccination become a subject of no inconsiderable moment.

A local fiscal arrangement might, it is conceived, be rendered easily available for the purpose of defraying the charge of vaccination on a most extensive scale; and this might be almost totally confined to towns and cities. A tax on houses would be a very equitable impost for such an object, and if this sort of assessment should be found to have a tendency to diminish the means of the people for supporting gorgeous pageants, it would become a mean of operating upon the native character in the very way in which Government is most anxious and is most interested to influence them, by teaching them to prefer acts of charity to those of idle ostentation. The native population of India can never be taught in any other than in a practical manner. Accustomed as it is to feel interest solely in objects which are within the ready grasp of individuals, the natives have no notion of fixing any value upon a system of a complicated nature requiring a long and patient perseverance to bring it to maturity.—

APPENDIX.

Table No. 1.

Population of the Saugor and Nerbudda Territories according to census of 1832-3.

Saugor.....	291,684	of which	14,705	are Mussulmen
Jubbulpore.....	447,236	,,	14,012	,,
Nursingpore.....	303,205	,,	9,855	,,
Huttah.....	162,955	,,	5,681	,,
Seonee.....	275,452	,,	6,852	,,
Baitool.....	185,477	,,	2,725	,,
Hussingabad.....	206,292	,,	7,713	,,
Rehlie.....	150,532	,,	4,510	,,
	1,995,833		66,033	Mussulmen
			1,929,800	Hindoos
			1,995,833	Total of both

* Vrai system de l' Europe, &c. par l' Abbe de Pradt.

TABLE No. 2.

Numerical Abstract of Vaccinations in Civil Stations within the Saugor Circle, from October 1835 to July 1836, both inclusive.

Civil Stations.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	Total.	Remarks.
Saugor*.....	0	0	72	64	59	77	111	75	175	46	679	* Including
Jubbulpore	0	0	0	0	0	43	64	7	0	0	114	Hutta & *Rehli*
Hussingabad .. .	153	110	152	125	100	69	6	6	6	0	727	at Baitool and
Seonee..	0	0	0	7	8	19	40	143	43	0	260	Nursingpore.
Total..	153	110	224	196	167	208	221	231	224	46	1780	No Vaccinations

TABLE NO. 3.

Numerical Abstract of Vaccinations in Military Corps in the Saugor Division, from October, 1835, to July 1836, both inclusive.

Corps.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	Total 10 months.	Remarks.
2nd Regt. N. Infantry ..	0	0	3	0	0	0	0	0	0	0	3	
64th do	0	0	4	9	1	0	0	0	0	0	14	Only one 78th
69th do	0	0	0	0	0	0	0	0	0	0	0	part of total num-
72nd do	0	0	0	0	1	0	0	0	0	0	1	ber of Vaccina-
29th do	0	0	1	0	0	0	0	0	0	0	1	tions.
33rd do	0	0	0	0	0	0	0	0	0	0	0	
46th do	0	0	0	0	0	0	0	0	0	0	0	
66th do	0	0	0	0	0	0	0	0	0	0	0	
2nd Local Horse..	0	0	0	0	0	0	0	0	0	0	0	
European Artillery.....	0	0	2	0	2	0	0	0	0	0	4	
Native Artillery.....	0	0	0	0	0	0	0	0	0	0	0	
Total..	0	0	10	9	4	0	0	0	0	0	23	

TABLE No. 4.

Number of Vaccinations in the Saugor and Nerbudda Territories, from 1st Oct. 1835, to 31st July, 1836, or ten months; and Proportion of Vaccinations to Population.

	Districts.	Population 1832-3	No of Vaccinations in 10 months.	Population of Vaccination to Population.	No. of Native Vaccinations.	Remarks.
Saugor District.	Hutta..	1,62,955				Proportion
	Rehlee..	1,50,532	679			of Civil
	Saugor..	2,91,684	*22			to Military
	Total..	6,05,171	701	one in 863	3	Vaccinati-
	Hussingabad.	2,06,292	727	do. 283	2	ons 77 to
	Seonee..	2,75,452	260*	do. 1,059	1	1, or Mili-
	Jubbulpore...	4,47,236	114+1	do. 3,923	1	tary to To-
	Nursingpore ..	3,03,205	,,	,,	1	tal Vacci-
	Baitool..	1,58,477	,,	,,	0	nations on-
	Total..	19,95,833	1,803	one in 1,108	8	ly 1 to 78.
						Native Vac-
						cinators.

* Military vaccinations.

NOTE A.

It may be objected, that town duties have but recently been abolished by Government, and that the imposition of a house tax in 1815 at Bareilly and subsequently a like measure attempted at Benares led to very unhappy consequences. The writer perfectly well recollects these last occurrences, so much to be deplored; but at the same time he also recollects that the suspected object of the house tax in those instances was to compel the inhabitants to supply the means for raising a force, the possible employ of which gave so much umbrage.

To levy a house tax for the purpose of keeping up efficient vaccination, is no more than demanding that the majority should furnish the means of warding off a continually impending public calamity.

Some well informed and humane individuals hold the reluctant opinion, that small pox is the least of two evils on the many occasions of deficient production of the soil which occur in Hindoostan—that famine, the more terrible of the two, is often alleviated by the invasion of the country by some desolating pestilence. Typhus and deficient harvests are known to be reciprocating the agents in the kingdom of Ireland! This condition of a people belongs only to a period of barbarism.

NOTE B.

The 8 native vaccinators, having each 300 vaccinating days, and consuming 3 or 4 days at each village in these districts, which are perhaps three to five miles distant from each other, could not easily visit for the purpose of successful vaccination more than 70 or 80 villages in the course of each season of ten months' duration.

And since the villages in the Saugor and Nerbudda territories are in general small, or do not contain as far as my observation extends (in my annual tour of some 600 miles) more than 250 or 300 souls in each village: and also assuming that, no more than three-fourths of the entire population of nearly two millions, to be compossd of rural inhabitants; not less than 6000 villages must be annually visited in order to vaccinate the greatest possible number of persons.

This large number of villages being spread over an area of hilly and rocky country, not inferior in extent to the kingdom of Ireland, could not receive the benefit of vaccination in a shorter period than ten years. And as small pox in an epidemical form invades many towns and villages almost yearly; a smaller establishment than three or four times the present one of eight native vaccinators, cannot reasonably be considered as an effective protection to so large a population, or rather for the half of it.

Dr. Guthrie, at page 65 of Mr. Cameron's report on vaccination for 1831, states, that 'small pox from time immemorial seems to have been the scourge 'of India, like the plagues of Egypt.'

Outline of a plan for the extinction of small pox by means of the diffusion of Vaccination in the territories subject to the Bengal Presidency. Sketched at the request of H. Hough, Esq. Superintending Surgeon.

The plan about to be proposed may be attended with greater immediate expense than that at present under trial. But, if the extinction of small pox and the preservation to the state of the thousands who are annually cut off, or rendered burthens on society, by this scourge, be the object of Government, then, the expense ought to be but a very secondary consideration. Besides, is it ultimately less expensive to expend for this purpose a couple of lacks of rupees per annum for a few years, and that with every prospect of effecting the desired object, than to spend Rs. 40,000 per annum in an abortive experiment as at present, for some twenty or more years to come.

1st.—Whatever plan be ultimately adopted for the extermination of small pox, should be so comprehensive, that no part of the territories to which it is to be extended should escape its beneficial operation. Means too should be taken to overcome the prejudices of the natives against vaccination, and this may, in many instances, be effected by opposing their interests to their prejudices, as well as by gaining over some of the Brahmins to the advocacy of vaccination.

2nd.—If every village, on being let on lease, was to be rendered subject to a higher rent in every year that small pox may break out in the village, the inhabitants would, no doubt, avail themselves of the aid of vaccination to avert such a consequence.

3rd.—Every town too, it is imagined, might with great advantage be made, by proclamation, liable to a fine in every year that small pox may prevail in it.

4th.—The cordial co-operation of all persons connected with the diffusion of vaccination should be secured, and this can be accomplished only by remunerating them for their trouble. It was open to objection to impose vaccination as at present, as an extra duty on Civil Surgeons without granting them some consideration. In fact, the doing so is tantamount to reducing their allowances ; for, as they receive but a pittance rarely amounting to Rs. 400 per mensem, and are allowed as a set-off to apply for their own benefit all their time beyond what is necessary for the performance of their civil duties, properly so called, it must follow, as a matter of course, that, by imposing on them extra and extraneous duty, they are deprived of a portion of that time which they have hitherto been allowed to devote to trade, and are consequently deprived of a part of what to them is equivalent to pay, or professional emolument.

5th.—The territory under the Bengal Presidency should be divided into districts, each district being of such extent only as to admit of an annual visitation.

6th.—The divisions of the army are (including the field forces) about a dozen. The vaccine districts may be made the same in number and extent.

7th.—A superintendent of vaccination should be appointed to each district, whose sole duty would be to attend to the diffusion of vaccination and to encourage the natives to adopt the practice. He should make a tour of his district every year, commencing the tour about the 1st November, and finishing by the end of March.

8th.—Every vaccine district should be sub-divided into circles, each circle to contain a certain number of towns and villages.

9th.—A native vaccinator to be appointed to every circle. His duty to be confined to the diffusing of vaccination among the inhabitants of the towns or villages in his circle.

10th.—Every civil surgeon to be appointed a deputy superintendent, and a certain number of the villages around his station to be placed under his superintendence.

11th.—A native vaccinator to be placed under the orders of the civil surgeon.

12.—By the adoption of the above plan, vaccination might be introduced into every town or village without the possibility of even a hamlet being omitted. whereas, at present, it is entirely left to chance what town and villages are visited by the vaccinators—while the far greater number cannot possibly be visited at all.

13th.—Every collector of revenue can furnish a map, or at all events a list of the towns and villages in his collectorship, and this would be the groundwork for forming the vaccine districts into circles, just in the same way as the civil districts are divided into tussuldarships at present.

14th.—A consolidated allowance of Rs. —— per month to be given to superintendents.

15th.—A cooroo or pundit to be attached to every superintendent, who would accompany him in his tour and encourage the people to adopt the practice of vaccination. His pay to be Rs. —— a month.

16th.—A monthly allowance of Rs. —— a month to be granted to every deputy superintendent, without reference to the amount of his pay as civil surgeon.

17th.—The pay of native vaccinators to be —— Rs. per month.

Encouragement in the way of higher pay or rewards to be held out to vaccinators.

REMARKS.

It may be inquired, what is to be done with the vaccinators when no longer required by Government. The answer is, they should be entertained with the understanding that they would be retained no longer than required; or they may, with great advantage, be transferred to the independent states for the purpose of spreading vaccination.

Should the plan for educating subordinate hospital establishments, recommended by Mr. Superintending Surgeon Hough, be adopted, one of the persons so brought up may with great advantage be sent to each circle to keep up vaccination and administer to the wants of the poor inhabitants, in the same manner as the "officiers de sante" do in all the country parts of France. They could also make reports of births and deaths, and furnish statements of the number of houses and inhabitants in their circles, together with much other useful information, for which there is no adequate means at present provided.

(Signed) R. FOLEY, M. D.
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(True Copy.)
H. HOUGH,
Superintending Surgeon, Saugor Division.

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AN ACCOUNT OF THE SICKNESS AS PREVAILING IN THE TOWNS OF MARWAR.

By H. MacLean, Esquire, M. D.

In our last number we led our readers to anticipate from Dr. MacLean a valuable paper on the sickness prevailing at Pallee: their expectations will not be disappointed; the paper is of commanding interest. Dr. MacLean enquires whether this is the genuine plague or a malignant fever; whether it has been imported from beyond the sea or has a local origin. Looking at the author's lucid description of the symptoms, we are inclined to consider the disease to have been an acute attack of fever, the irritation of which fell upon the glands of the groin and axillæ—effects of fever which are but rarely observed in Bengal and other parts of India. We ascribe the fatal issue of the disease at Pallee to want of medical treatment at the onset of the attack. Dr. MacLean observes, that he could not discover that Soojit possessed a single citizen professing the healing art, and he was told that those of Pallee had fled leaving the malady to take its course un opposed. We conceive there exists sufficient in Dr. MacLean's able statement to prove the local origin of the disease, and disprove the supposition of its importation from beyond the sea. He observes that it is possible the pestilence may have been generated in the atmosphere of a filthy, confined and populous town; that it has not extended to a greater distance than forty miles from the place of its origin, and that the neighbourhood is as filthy and confined as Pallee itself. All the Pallee fugitives have returned to their homes—confidence is restored, and business, after a total interruption of three months is again being carried on. Dr. MacLean likewise acknowledges that in every town or village in which a few refugees may have taken up their residence, an out breaking of the disease was not a constant or necessary consequence of their presence. Another sufficient cause of malignant disease is shown by Dr. MacLean in the imperfect manner in which the corpses were burnt, arising from scarcity of fuel for the purpose, and from the circumstance of the operation having been entrusted by the burnahs to hired coolies who were not careful in performing that important duty. Pariah dogs were seen feeding on half consumed limbs of the dead. Taking a cautious view of the whole of the evidence before us we are of opinion the disease was not contagious.

Pallee is a town of the state of Marwar, lying in about latitude 25½ north; south west from Ajmere about 100 miles, and nearly south from the city of Joudpore forty miles. It is a place of considerable trade, being the entrepôt through which cottons, chintzes, woollens, dyes, ivory, cocoanuts, spices, metals, &c. pass from the coast to the countries to the east and north. It is situated in an extensive plain, whose wearisome tameness is somewhat broken by small, isolated, conical shaped hills not more than 200 feet in height, which rise here and there abruptly from its surface. More than half of this expanse is uncultivated, and the soil is in general gravelly and poor. To the eastward of the town is an embankment, by which the waters of a small nullah are retained, forming a jheel or tank of considerable size, in which the chippahs or cloth printers wash their cottons after they have been printed. From an inner and smaller tank close to the town, the inhabitants ob-

tain the water required for domestic purposes, that of the outer and larger one, being deemed insalubrious, from the coloring matter, or washings of the newly printed cloth, which it is said to hold in solution. The water drawn from wells, in and around Pallee, is slightly brackish. The eastern borders of the larger tank are (at this season at least) swampy, covered with long grass, and with the damp smell peculiar to marshes. The town is built on a site slightly elevated above the surrounding country, and is visible from a distance of six or eight miles in every direction. The houses of the poorer inhabitants are of mud, covered in with tiles or grass, those of the middle classes are of stone or brick, and are either tiled or flat roofed, while those of the Seths arc substantial; sometimes rather handsome tenements of two stories, often with a court-yard or nohra attached. The town contains a Dhurrumpoora and a few temples, chiefly belonging to the Jain sect of Hindoos. To one of the temples is attached an establishment of sillotes or stone cutters employed in the fabrication of the object of Jain worship. Parisnath, great numbers of which, of all sizes, cut out of the finest specimens of pure white marble from mukrana, are sent hence to the different towns to the south and south-west in which the Jains are numerous.

The principal streets or bazars of Pallee are narrow and confined; but not more so, I think, than those of most other Indian towns of equal size; the shops have deep open verandahs towards the street, in which the wares of the merchant are exposed for sale; the back premises only, in which the goods are deposited at night, and in which (or in an upper story) the family resides, being enclosed and secured by a door. With exception of a few of the chief streets, the rest of the town is very irregularly built, consisting of numerous alleys and courts, thrown together as if by chance, and without any regard to arrangement or order.

Pallee is not protected by any continuous wall; there are, however, bastions at irregular intervals round the outskirts of the town, but whether they were ever connected by regular curtains, I do not know. I was told that the merchants had always objected to the building of a wall, because they would not then, as now, be able to smuggle a portion of their merchandise into and out of the town.

The population of Pallee has been variously stated to me by different persons, some estimating it at 12,000, some at from 15,000 to 12,000, and some so high as 25,000. Judging from the appearance of the town, I should think that its population could at no time have exceeded fifteen thousand, and that it has been always something under that amount. The inhabitants are partly Hindoos, partly Mussulmans, the former in the proportion of four or five to one of the latter. The Hindoos are chiefly of the mercantile class, the Mussulmans are chippahs or cloth printers, turners (engaged in making ivory bracelets, with which the women of Marwar cover their arms from the shoulder to the elbow, from the elbow to the wrist) and a few kusais or butchers.

Early in the month of August last, reports of unusual sickness in Pallee reached Beawr, but did not attract particular notice, it having been taken for granted, that the disease was nothing more than the intermittent fever which, during the two preceding rainy seasons, had prevailed over the whole of Rajpootana. It was not till the beginning of September, that, hearing very extraordinary, and, as I at the time conceived, exaggerated accounts of the mortality then occurring in Pallee, I was led to enquire more particularly into the nature of the malady by which it was caused. I soon became satisfied that it was a disease hitherto unknown to the natives, and likewise that it might probably prove to be the plague.

About the beginning of October reports from Pallee represented the mortality there to be on the decline (as well it might, seeing that five sixths of the inhabitants who had escaped the pestilence, had fled the place,) and the disease to have lost those peculiar symptoms, whose presence had reduced the suspicion that it might be the plague. It was rumoured at the same time, however, that much sickness, also of a very fatal character, had begun to shew itself in several considerable towns, in which it was known that many refugees from Pallee, had taken up their abodes.

With a view to ascertain by investigation on the spot, whether the disease by which Pallee had been depopulated, was the same as that said to be raging in certain towns within a circle of 20 or 30 miles around it, and to learn its true character, I paid a hurried visit to Pallee and Soojit, (a town of 6,000 inhabitants, 24 miles north east from Pallee) between the 9th and 13th instant.

In the course of these few days I saw a considerable number of sick, labouring under a disease, the most constant and remarkable symptoms of which, as they presented themselves to me on inspection of many cases, I shall now succinctly relate. This detail would, no doubt, have been more satisfactory and complete, had time been available for the purpose of marking the disease through its whole course in particu-

lar cases, but circumstances did not permit me this advantage.

The first symptoms are slight rigor, nausea, headache, pains of the back and loins; to which succeed great heat of body, and dryness of skin; frequent pulse; heavy, hazy appearance of the eyes, which are often also bloodshot; costive bowels, somewhat tumid belly, foul white or yellow tongue, sometimes vomiting; thirst, anxious countenance. In the course of the first or second day, buboes appear in the groins, armpits, or neck. Most commonly there are one or two, sometimes three. Their most usual situation is the groin; next, the neck, and almost always on the left side; lastly, in the axillæ, or in women particularly, a little more forward on the chest. I saw one woman who had a large, hard, deep seated, painful swelling on the inside of each arm just above the elbow; she had at the same time, a bubo in one axilla. This was the only instance in which I observed tumours or swellings in other situations than those mentioned. The buboes are at first small and moveable, and in the majority of cases never attain a greater size than that of a walnut. In some, however, (and the circumstance had been noted by the natives as favorable) they grow to a much greater size. I saw several as large as the clenched fist of a man, both in persons still labouring under the disease, and in others who had recovered from it; large and small were uniformly hard and very painful to the touch. They do not often suppurate, but I had proof that they do so sometimes. In this event the discharge is purulent matter alone, or mixed with shreds of dead membrane. Generally in persons who recover, the enlarged glands gradually regain their natural size.

In a comparatively small number of instances, usually on the first day of the disease the patients experience acute pain in some part of the chest, on one or other side or behind the sternum—great dyspnœa, short cough, hæmorrhage from the lungs said generally to amount to about two pice weight of blood) on the second or third day. Buboes sometimes co-exist with the pulmonic symptoms, but more frequently they are absent.

I shall here quote from my memoranda, the cases of the two first patients I saw in Soojit: in one the lungs were affected; the other had a bubo.

Case 1st.—"A young brahmin woman, I found her doubled upon a charpoy, her body hot, and dry pulse 140, small and hurried; tongue covered with a light yellow fur, mouth cammy, dyspnœa, unable or unwilling to answer questions, but points to the centre of the sternum when asked in what part she feels pain; bowels bound, eyes heavy, and bloodshot; occasional short cough had expectorated about two pice weight of blood; the day before no buboes; third day of her illness died in the course of a few hours."

Case 2nd.—"A young man, ill two days, was brought from the interior of his house to a platform at the door, supported by two persons; head hanging on one side, eyes heavy and bloodshot, skin hot and dry, foul white tongue, severe headache, bowels not open since illness, pulse 145, soft, and of small volume, belly soft and free from pain, thirst, has a small bubo in the left groin." (I saw this patient first about 5 o'clock P. M.) Next morning saw him again "was told that early in the preceding night he had become very restless, and wandered in his mind; has passed four or five good stools (from medicine which I had administered the night before); is now comatose, skin burning hot, pulse small and 150, cannot see his tongue." I advised his friend to shave his head, apply cold to it, leeches to his temples, and poultices to the bubo. I was unable to see this patient again, but was glad to learn in the evening of the same day, that he was not only still alive, but that he was much better.

Death usually takes place in the course of the third day or even sooner, and seldom later than the fourth. On this point I find the following entry in my memoranda: "During my visit to the bazar this morning, my progress was arrested at every house, the inmates bringing forth one, two, or more sufferers. Most of them had been taken ill within three days, all within five, and many only the day before. It appeared that all, taken ill *more* than five days previously, were either dead or recovered."

In the more favorable cases, the febrile symptoms undergo a remission towards morning more or less marked and prolonged, and by the 5th, 6th, or 7th day, the fever ceases altogether. In some instances the disease is extremely mild, the patients being able to walk about. One or two even found their way to my tent more than half a mile from the town, and but for the presence of buboes, peculiar heaviness of the eyes, &c. I should scarce have supposed that they laboured under the same formidable malady I had just seen so fatal in others.

In serious cases little or no perceptible remission of the fever is observable. The pulse becomes more frequent and smaller, and sometimes before death, the patient falls into a state of coma from which he never awakes. In no instance did I observe the head materially affected at an early period of the disease. There was always headache

more or less severe, but generally the patients were sensible, during the first and second days.

The most unfavorable cases are those in which the suppressed bubonic eruption is transferred to the lungs, but few such end well. I met, however, with several persons, who had recovered completely.

In so far as I could learn, the natives of Soojit had recourse to no medical treatment in this disease, beyond the local application of leeches, and a compound of onions, turmeric and spices to the buboes. In Pallee among the mussulman inhabitants, venesection had been practised in a good many instances, particularly where the lungs were affected, but without any benefit. I could not discover that Soojit possessed a single citizen professing the healing art, and I was told that those of Pallee had fled with the crowd, leaving the "strange" malady to take its course unopposed.

While the sickness was at its greatest height in Pallee, and before the citizens had taken refuge elsewhere, it was currently reported and believed, that not more than from two to six per cent, of those attacked, recovered from the disease. Whether this assertion may have been merely a specimen of native hyperbole, or whether the disease may have since that period become less malignant and fatal, I do not know; but I feel confident that the actual mortality does not exceed and possibly falls something short of two thirds of the sick. I found considerable difficulty in obtaining any accurate information with respect to the total number of casualties which had occurred in Pallee since the sickness burst forth three months ago. Some declared that ten thousand persons had perished! The more moderate, and among them the hakim's deputy, estimate the numbers at from 5000 to 6000. The chippahs, who form a distinct community, informed me that their loss amounted to 655 out of a total of about 2000 persons of all ages. Supposing the disease to have been equally fatal to the mercantile, and other classes, the total number of deaths could not have amounted to much less than four thousand.

At the period of my visit, Pallee might have been called, without any great stretch of imagination, a "city of the dead." With exception of about a hundred families of chippahs, and a few of the poorer classes inhabiting the hovels of the suburbs, the town appeared utterly deserted. In the chief bazars where the people "most did congregate," not a sound was heard save the echo of our footsteps from the tenantless walls. Every door was locked, the locks being enveloped in a smooth case of dried clay, so that they could not be tampered with, unless the mud covering were first broken, and this had in fact been done in many instances by the stealthy Meenahs of the neighbouring villages, who, encouraged by the supineness and inactivity of the local authority, had, under cover of night, reaped a rich harvest of plunder, at the expense of the absent citizens. During the night I was constantly awoke by reports of matchlocks fired by the private chowkedars (left on their premises by the wealthier muhajuns) as a hint to the prowling Meenahs, that they were on the alert.

Among other places, I visited those where the bodies of the dead had been burned during the preceding months, and was surprised to observe pariah dogs, in considerable numbers, lying near, or wandering among the heaps of ashes. On enquiry, I learnt that these animals, deprived in a great measure, since the depopulation of the town, of their accustomed food, were in the habit of watching the places of aremation and of feeding on the half consumed limbs of the dead. I was witness of a disgusting occurrence of the kind, of which I shall forbear the relation. The imperfect manner in which the corpses were burnt, seems to have arisen partly from scarcity of fuel for the purpose, and partly from the circumstance of the operation having been latterly in general entrusted by the burnahs to hired coolies, who were but little careful to perform faithfully the task they had undertaken.

It being the object of the Joudpore authorities to encourage as much as possible the return to Pallee of the remnant of its citizens, some pains appear to have been taken to disseminate a belief among them, that the scourge, by which they had been driven into banishment, had become extinct. The constant smoke of the funeral piles told a different tale; and even the deputy hakim was obliged to admit that two or three deaths still took place daily. By dint of enquiring, however, I found that no less than thirteen persons had died on the day of my arrival, and preceding night; and four or five on the night of the eleventh. Considering the very reduced numbers of the population, this mortality appeared to me to be fully in proportion to what it had been while the town was yet populous, and to justify my belief that the disease will again commence its ravages on a greater scale, should the inhabitants return in considerable numbers before the cold of November and December shall have circumscribed its power.

On the eve of my departure from Pallee, a respectable bunniah came to my tent to

request medicine for his wife, whose case he described so clearly that it was impossible to mistake her disease. She had violent fever, pulmonic symptoms, and a bubo in one groin. This bunniah with his family had left Khyrwah, a town ten miles from Pallee, the preceding day, or the day before, I forget which, in perfect health. As he approached the "doomed city" his wife was taken ill, and in all probability died within twelve hours after the poor man's visit to me. My object in relating this case is to shew, that the refugees on returning to Pallee, will bring the pestilential contagion with them, as certainly as that they carried it thence at the period of their emigration; so that even if the disease were now extinct at Pallee (as the authorities would wish to be believed, but which as I have shewn above, is far from being true), the arrival of the refugees would soon re-establish it.

One cause of the eagerness of the authorities to hasten the return of the refugees appeared to be a desire to ascertain exactly who were still alive, in order that they might assume possession of the property of all who had left no immediate heirs.

Of the state of the sickness as it now exists in those towns to which the inhabitants of Pallee fled, some six or seven weeks ago, I can only speak in one instance from my own observation, and in others from general report.

Soojit is a town of 6000 inhabitants. To this place many hundred people, mostly bunniahs, came from Pallee, where the sickness then was at its height, under the idea that flight for a time from a place supposed to lie under a heavy curse, was absolutely necessary to the safety of their lives. Their flight, however, availed them little. The disease by which they had been expelled their homes accompanied and adhered to them (and for a short time to them only) in their new habitations; and then extended its ravages to the bunniahs of Soojit, with whom, as being of the same caste, the refugees were in the habits of more intimate association, than with other classes. The symptoms of the disease appear to have been essentially the same from the first in Pallee and Soojit.

In the course of a month or five weeks from the arrival of the refugees, the malady had attacked all ranks and castes, though the Bunniahs still continued to be the principal sufferers. The number of deaths, at the time of my visit, amounted to about 15, and I learnt that since then the mortality has been gradually increasing, the casualties being now (23rd October) stated to be more than forty per diem.

So soon as the sickness broke forth in Soojit, a few of the principal muhajuns (the kotwal, who lost his wife, among others) hastened to leave the place, and now I am assured by a bunniah belonging to that town, who arrived at Beawr only a few days ago, that many are taking up their abodes in their fields, and in the small villages around. Soojit is in fact undergoing the same process of depopulation by the death and flight of its inhabitants, through which Pallee has already passed; and this statement is applicable, I believe, in nearly its full extent, to Khyrwah, Jeetra. Chundawat, &c.

With regard to Joudpore itself, my information is too vague, to enable me to speak with confidence, but I have reason to think that the sickness and mortality there have been, for some time past, and still are, considerable.

Having in the foregoing pages endeavoured to describe the symptoms, progress, effects, and present state of the Pallee distemper, it now only remains for me to add a few words on its nature, origin, and probable consequences.

Is it the genuine plague, or a malignant fever, simulating in some respects that disease? If it be the plague, was the pestilential contagion from which it sprung imported from beyond sea, or had it a local origin?

Perhaps no disease has put on a greater diversity of appearance than the plague, as it has prevailed in ancient and modern times, in different countries and in various climates; and it would be rash to conclude that the Pallee disease is *not* the plague in one of its many varieties, because it may not be found to correspond in each and every particular with the general descriptions usually given of that malady.

The only definitions of the plague within my reach are those of Drs. Cullen and Good, and are as follow—"Typhus maxime contagiosa, cum summa debilitate; incerto die, eruptio bubonum vel authnacum." (Cullen). "Tumours bubonous, carbuncular, or both; appearing at an uncertain time of the disease; eyes with a muddy glistening; fever, a malignant typhus, with extreme internal heat and debility; contagious." (Good).

Buboes.—In the plague the buboes, "which are the proper and characteristic eruption of the disease, the critical mark, and natural means of conducting it to a favorable termination," appear at an uncertain period. In the Pallee disease they appear on the 1st, 2nd, or 3rd day, or not at all. In the plague, the buboes are generally said to suppurate, especially in cases which terminate favorably.

In the Pallee disease, though they certainly do occasionally suppurate, the occurrence is rare. This may partly perhaps be accounted for by the fact, that while in plague countries every effort is made by proper applications to induce suppuration of the buboes. In the Pallee disease not only were the usual means of promoting suppuration unknown or neglected, but applications of an opposite tendency were often made. The absence of carbuncles, vibices, &c. (which are not pathognomonic symptoms) only proves that the Pallee disease is not the plague in its most malignant form.

Eyes.—In detailing the symptoms of the Pallee distemper, I have said that the eyes have a heavy, hazy, or bloodshot appearance. At the time of noting this circumstance, I was unacquainted with, or had forgotten, the term "muddy glistening" used by Dr. Good, and was unwilling subsequently to alter the original phrase, though it may be more ambiguous and less expressive than the other.

Fever.—In both definitions the fever of the plague is said to be a malignant typhus, and this no doubt is generally true; but we are told by Sir James McGregor, that in Egypt, the fever of the plague, among the troops of the Indian army, was in some corps typhoid, and in others intermittent and remittent. The fever of the Pallee disease is remittent. I saw at Soojit many persons labouring under the common intermittent fever of the season; the clear eye and sallow look of these people contrasted strikingly with the plague-like appearance of those afflicted with the more serious malady.

Contagious.—To establish or disprove the existence of this quality in the Pallee distemper is of vital importance, and I shall be excused, if in endeavouring to prove this position affirmatively, I am obliged to recapitulate some circumstance connected with the progress of the disease, already adverted to in the preceding part of this paper.

The distemper first shewed itself among a class of men, the Chippahs, living in a particular quarter of the town, and in some degree separated from the bulk of the inhabitants by the nature of their occupations, and their religion. After it had committed considerable havoc among this body, it attacked the bunniahs and other castes. When the mortality became general and extensive, the scared citizens, believing that a curse was upon their native place, betook themselves in crowds to several towns lying within a circle of from ten to forty miles around Pallee. All the evidence I have been able to collect goes to shew that, previously to the arrival of the Pallee citizens in these towns no disease similar to that prevailing in Pallee existed, or had ever been known to exist in them; and further that such disease did, immediately or soon after their arrival, make its appearance in every one of those towns, and *in them only;* for I felt satisfied after the minutest enquiries it was in my power to institute, that the disease now here existed in the *small* villages of the immediate neighbourhood of Soojit, or even of Pallee itself. I do not by any means intend to assert, that in *every* town or village, in which a *few* refugees may have taken up their residence, an outbreaking of the disease was a constant or necessary consequence of their presence. I know the contrary to be the fact. All I wish to affirm is, that in every town to which they resorted in *considerable numbers*, the disease did invariably burst forth.

When one member of a family sickens, his relatives who administer to his wants during his illness, are often, perhaps generally, attacked also. As bearing on this point I quote the following examples from my memoranda:—"A bunniah of Soojit who had the disease and had recovered shewed me the remains of a bubo in the right groin; he added, that first one of his family had caught the complaint, and that all the others had been attacked in succession to the number of four or five. All had had buboes in the groins, like his own, and all had recovered in the space of six or seven days."—"A lad of 18, also a bunniah, informed me, that the disease had attacked his family six days before, and that his father, elder brother, and wife had all died within that time. They all had buboes in the groins arm-pits or neck."—"A woman was brought to me with bad fever and buboes in both arm-pits, she was the last of a large family, all had one by one fallen victims to the prevailing malady. Her husband had died only that very morning."

I could mention other similar facts which came within my observation; all tending to shew that the Pallee disease is contagious; that the atmosphere of contagion is very limited, and the disease only propagated by intimate association between the sick and the sound.

Origin.—When at Pallee I endeavoured to discover from what source the disease had sprung, but without being able to arrive at any statisfactory conclusion on the subject. At first it was supposed by the natives that it had been imported into Pallee by the followers of a Seth, Torawur Mull, who passed through it en route to Jessulmera, from a place of Teeruth in Guzerat, of which I forget the name, about the time the malady

broke out. On enquiry, however, it appeared that the people of the Seth's caravan, had been healthy, or at all events, had suffered from no distemper resembling that of Pallee.

The superstitious inhabitants next attribute its origin to the curse pronounced by a faqueer who killed himself because the hakim, or rather the hakim's deputy, had given him abuse during a dispute about the right to a patch of grass, between him (the faqueer) and some sowars in the service of the Joudpore Raj.

The chippahs were undoubtedly the first sufferers by the distemper, but they deny that a member of their fraternity was the *very* first individual, who died with symptoms which they have since become so well acquainted with. According to the Chippahs, the first person who died of the disease was a more properly spelt "Silawut" Sillote or stone cutter. I questioned both parties closely, and found both eager to disclaim the fraternity of so mischievous an offspring.

It is possible that the pestilence may have been generated in the first atmosphere of a filthy, confined and populous town; —though in so far as I could judge, Pallee scarce deserves to be stigmatised, as being more filthy or confined than its neighbours. I incline rather to the opinion that the pestilential contagion must have been imported from the coast in bales of cloth or other articles of traffic, the produce of plague countries. I must, however, confess that I was unable to discover a little evidence tending to support this opinion, beyond the single circumstance of the chippahs, among whom the distemper burst forth, being the principal purchasers, to the amount, I am assured, of 3, 4, or 5 lakhs of rupees, annually; partly in retail, partly in unopened bales by means of musters, from the Séths of the cloth so imported. The chippahs, are utterly ignorant of the names even of the countries from which the different kinds of cloth are brought, including the whole under the designation of "foreign," and the Séths who might perhaps have thrown some light on the subject had not then returned to Pallee. By far the greater part of the cloth brought to Pallee, from the coast, is I believe English, and to it no suspicion can attach—but correct information on these points will be best obtained from persons residing at Surat, Bhaenuggur, &c., the marts from which the Pallee importations are chiefly derived.

Considering that the Pallee malady has now been growing in Marwar for more than three months, and that it has not yet extended to a greater distance than forty miles from the place of its origin, there does not appear to be much cause to fear that it will ever invade the territories of the Honorable Company. Writers on the plague lay it down as an established fact, that that disease cannot exist in a country of which the mean temperature is above 80° or below 60°. If this be true, the Pallee disease (supposing it to be the Plague) must die a natural death in the course of a few months. In the mean time, all that is needful to be done, is to prevent the entrance of bodies or families of people from the infected towns; and this may be effected without imposing vexatious restrictions on the general intercourse between Marwar, and our possessions. A system of quarantine similar to that enforced in European countries, even were it called for, would probably be unavailing in this part of India, when evasion of its provisions would be so easy.

Beaur, 25th October, 1836.

P. S.—I have ommitted to mention above, that I met at Pallee with Mr. Crammond, of the Bombay Medical Service, who had been despatched from the station of Balmeer, to enquire into and report on the nature of the Pallee sickness. From information collected by Mr. Crammond in the course of his march towards Pallee, he had almost or altogether arrived at the conclusion that the disease is the plague, before I met with him. I was informed also, that another medical officer had been sent from Ahmedabad by the Bombay authorities, and was then (12th Oct.) approaching Pallee.

An opium merchant told me that one or more kasids sent by him from Pallee with letters of business had been stopt at Pulampore by the Bombay officers.

2d P. S.—The latest accounts from Marwar state that almost all the Pallee fugitives (i. e. all who are still forthcoming) have returned to their homes—that confidence is in a great measure restored—that business, after a total interruption of months, is again being carried on, and that the casulaties amount to only two or three per diem. Reports from Soojit are of a less favorable complexion. The mortality there is still considerable (in one day no less than 58 persons died) but is said to be decreasing.

Beaur, 1st November, 1336.

REPORT ON FEVER AS IT APPEARED IN H. M.'S 6TH REGIMENT AT DEESA, DURING THE MONTHS OF AUGUST, SEPTEMBER, OCTOBER AND NOVEMBER, 1835.

By Dr. Jackson, H. M. 6th Foot.

In the month of August common remittent and intermittent were very prevalent;

but few serious cases occurred, and we had no casualties. Very early in September the epidemic assumed a more serious aspect.

Though the disease often observed a quotidian and tertian type, the symptoms were so violent and anomalous that we lost sight of the three stages of a common intermittent. In some, the disease was ushered in by stupor, syncope, or loss of sense and motion. When the accession of disease was sudden and without premonitory symptoms the patient had distracting pains in the head, back, and sacral extremities. The affection of the head was, at one time, an indescribable sense of oppression on the brain; at another the patient felt as if he were drunk. Violent pain in the ear, the eye-brow, or the eye-balls, difficult micturation, hemicrania, vertigo and confusion of ideas were observed in different cases.

When the disease localized itself, as it were in the chest, the accession resembled a fit of asthma: the patient was suddenly seized with dyspnœa, gasping for breath: sometimes there was pain, and an awful sense of oppression across the chest, including the hypochondriac and epigastric regions. The abdominal regions were occasionally the theatre on which that hydramiasm exhibited its mysterious power.

Then we had darting lancinating pains in the epigastrium, tenesums, and griping pains in the umbilical region, feeling as if the whole body were distended from within, and compressed from without. Together with these symptoms a patient was sometimes admitted in terrible agony with violent cramps in his legs.

We had many common cases of gastric or bilious remittent, indicated by great irritability of stomach, bilious vomiting, insatiable thirst, intense burning heat of the skin, particularly of the hands and feet, which felt to the patient as if placed on hot iron; jaundice of a deep yellow and greenish colour; hence the men called the disease green jungle fever.

The disease was most treacherous and fatal when the symptoms did not run high. When the patient had not been in his usual health in barracks of a week or ten days, he reports himself sick, but cannot tell what is the matter: he appears unable or unwilling to answer questions: he has no pain nor sickness. No irregularity is to be observed in the functions of circulation, respiration or digestion. His only complaints are, that he cannot sleep and wants appetite. He is admitted or may have been in hospital several days before alarm is excited: for several successive mornings, when asked how he is, he answers, "very well, sir," to which reply the state of the tongue, pulse, skin and countenance echoes amen. If, however, you desire him to walk, he cannot stand, or staggers like a drunken man. He has lost the use of his limbs; the nervous energy seems to have left him without giving the system warning.

Subsequently, perhaps, he had evening exacerbations, somnulency, immobility of pupils, or bilious vomiting and watery purging two or three days before death. He lingers and often sinks gradually without these symptoms. We had several cases of that kind about the end of October and beginning of November after two heavy monsoons.

One of the most common phenomena of the disease was debility, moral and physical. This was great and out of all proportion to the previous febrile excitement. A patient after one, two, or three paroxysms of fever of moderate severity remained for weeks and months in a state of debility, having, perhaps, an occasional exacerbation of an afternoon, or not. In some cases of this kind the patient walked about, recovered appetite, had tongues clean and bowels regular. If, however, discharged to duty, they soon had either a relapse or an attack of some other disease. They could not recover their lost strength.

In vain were tonics, wine, and beer administered. This debility was not the affect of treatment, for in most cases the symptoms were so mild as not to warrant any depletory measures.

Funcking, or an extreme apprehension of a fatal termination was frequently observed, but not in the most serious cases. They seemed, determined to die, to lose all confidence in medicine. This symptom was indicated by the manner, countenance, and tone of voice. When this feeling was unaccompanied by other symptoms, very little danger was to be apprehended.

The most alarming feature in the epidemic was collapse, which came across the hospital as a blight, prevailed for 3 or 4 days, and then disappeared: on these occasions the weather was generally cloudy, rainy and thundering. This exhaustion of the vital powers seized some men suddenly, who had been in hospital several days for other diseases. It often appeared in subjects convalescent from slight attacks of fever. It often happened that the majority of the patients in hospital had more or less sinking of the vital powers. The thready or imperceptible pulse, the drenched skin and the prostration of strength, remained one of cholera.

In the former the patient did not appear so sensible of his awful situation—his tongue and breath were not cold; neither had he choleric evacuations. No patient was brought

to hospital in a state of collapse, with the exception of one, who also having congee coloured evacuations upwards and downwards, was admitted under the head of cholera.

When irritibality of stomach and collapse co-existed the case was hopeless. It was observed as frequently in intermittents as in remittents: was not preceded or accompanied by horripilation or shaking, nor was it consequent upon a febrile exacerbation. With this sudden sinking there sometimes existed internal heat and thirst. The extremities were often deadly cold, while the trunk was warm.

Our patients did not complain of cold: they seemed to be insensible of the great loss of animal temperature.

Some remained in a state of collapse from nine to twelve hours. Recovered by the aid of stimulants, had another attack, and got well again. Could this state of collapse be the cold stage of a paroxysm of a highly congestive form, or is it not more probable that it was some other disease to which the patient was predisposed by fever? It was not the debilitating effects of treatment, because it occurred in men who had been neither leeched nor bled; that a common blood letting would have induced or aggravated this state I have no doubt.

In some cases of considerable severity, at first, there supervened profuse nocturnal perspirations, so profuse as to drench the bedding. This did not relieve, but debilitate the patients, who sunk under the disease.

With regard to the causes of the epidemic, we may first notice the season of the year and a heavy monsoon. The first year the regiment was at Deesa we had no rains, and no sickness, with the exception of a few cases of coup de soleil and bilious remittent fever.

The second year a heavy monsoon brought with it a heavy sick list and many casualties. As predisposing causes, I would enumerate despondency, ennui, and dram-drinking on an empty stomach. Being confined for months and years within a space of two square miles or not so much, in a dreary waste, without a proper library, without being allowed any indulgence in the sports of the jungle, and without any thing to interest them, must pray upon soldiers' minds. If they have any spare money, one door of expenditure only is open to them and that is the canteen. A strong predisposing cause of the disease, there is reason to suspect, was venery in excess or even in moderation during the epidemic season. A much greater proportion of fatal cases occurred amongst married than single men. Several fell victims who had been devoted to their wives, good looking women.

During a sickly season, it were advisable to recommend great moderation in, or total abstinence from venery.

Before entering upon the treatement we may here insert

An abstract from the monthly returns of sick.

Intermittent and Remittent Fever. 1835.	August.	September.	October.	November.	Total number of.						Station Deesa.
					Individuals affected.	Relapses.	Treated.	Deaths.	Discharged.	Serious cases.	Strength of corps.
Remained	20	39	67	49							
Admitted	75	115	86	42							
Treated	95	154	153	91							
Discharged	57	78	96	57							
Died	0	9	8	5							
Remaining	39	67	49	29							
					232	106	338	22	287	100	723 & 790

To cut short the disease in limine by active treatment was quite out of the question: had this been attempted, the means must have proved more fatal than the disease left to nature.

Two-thirds of our patients had an emetic on admission and this was by far the most useful class of remedies. Ipecacuan ʒss. and antimony gr. ij. produced free vomiting, relieving the patient from nausea, irritability of stomach and headache and malaise.

Sulphate of zinc was often given in intermittents with advantage and repeated. Collapse did not follow the operation of an emetic.

Venesection did not constitute part of the treatment, generally speaking. In some cases, however, it was of such benefit that I did not like to dispense with it altogether: and then the patient was made to swallow a glass of wine while the arm was being bound up.

In one case where the chest was affected, the patient lost from the arm ℥ 15 of blood with immediate relief and permanent benefit: six hours after abstraction the blood was a homogeneous fluid! neither crassamentum nor serum were visible.

Our patients often requested to have leeches applied, but never to be bled, which they dreaded. Patients fainted at a small loss of blood; the brachial veins yielded blood reluctantly; leeches soon dropt off; the pulse was generally quick and small; the crassamentum was seldom observed either buffed or cupped; natual hemorrhage did not bring relief or cure. Thus did nature seem to counterindicate the abstraction of blood.

A more valuable measure was the application of leeches, which always relieved any local pain without aggravating the disease. The largest leeches sucked ℥vi of blood; the small and those which had been applied a second or third time did not remove ℥ij. Leeching the epigastrium relieved irritibality of stomach and thirst. In the cold stage of intermittents V.S. was of decided benefit in abbreviating the paroxysm and rendering subsequent ones less severe.

The practice of V.S. was not so puzzling as the administration of *purgatives*. Physicing is set down as one of the causes of fever in Guzerat, where a person cannot commit a debauch in eating or drinking, as he cannot purge it off with impunity.

With regard to the state of the bowels in the above cases of fever, in some they were constipated; but in the majority they were regular from the commencement of the disease.

The loaded tongue, the bad taste, the total want of appetite, the yellow tinge of the eyes and skin, the determination to the head and congestion within the skull, all those together with the post mortem appearances, strongly indicated the use of purgatives; but the sudden exhaustion of the physical and moral forces forbad such evacuations. If there was the least tendency to collapse indicated by a cold skin and small pulse, a common purgative was sure to produce alarming sinking, and in such cases no small quantity of alcoholic stimulants was required to bring them about.

In serious cases, the practice was, on this account, extremely unsatisfactory and puzzling. A paroxysm was often aggravated, and sometimes induced by a purgative, which the state of the bowels had rendered necessary. Enemata and small doses frequently repeated did not fulfil the intention of purging.

By a dose of the compound powder of jalap (perhaps injudiciously adminsitered) one man was hurried to the grave.

In one case of a lingering native that terminated fatally, the liver was found engorged, and the alimentary canal containing a large quantity of fæces; yet a purgative or even a laxative could not with safety have been administered, so great and long continued was the collapse, which symptom, however, was not so dangerous when consequent upon a purgative. Hot brandy and water, followed up by beer or wine brought the patient about. Tenesmus and uneasiness of abdomen were often complained of from the bowels being confined. Small doses and enemata did not relieve them, and if any thing more powerful were administered, collapse was sure to follow.

Counter-irritation.

Blisters and sinapisms were of the greatest value. These were applied to the neck, head, epigastrium, calves of the legs and feet according to the nature of the case. When the thoracic viscera were affected large sinapisms to the chest and epigastrium were of immense advantage. Fortunately dysuria was not such a common symptom in fever this year as last, otherwise cantharidis could not have been applied with such freedom. When prostration of strength, stupor, somnulency, numbedness and want of power in the sacral extremities, total insensibility to the existence of disease or pain—when those with other symptoms indicated the brain and nervous system to be involved more particularly, blisters were applied along the spine, in some cases, with benefit; but in most without hope and without success.

Mercury

In tropical typhus as this disease might be called, mercury urged to salivation does not seem to answer. Indeed it is difficult and often impossible to produce salivation. It seems as if the salivary glands refuse to act upon the fibrinless blood. In mild cases and those of moderate severity, calomel was given to promote the biliary and intestinal secretions with the happiest effect. In serious cases, having no other remedy or plan of treatment to be depended upon, calomel was given empirically; but it generally failed to make the smallest impression on the system.

In cases where the patient, though not dangerously ill, is excessively irritable, discontented, anxious and desponding, it is often advisable to salivate. And here opium is as necessary as calomel: the former supports the system until the latter acts.

Does salivation by mercury afford a temporary protection to the patient from sol-lunar influence and miasm? does it bring with it time and patience and other chances of cure from the operation of other agents? When mercury to salivation is the routine practice

of a hospital, the subjects no doubt, are rendered more liable to relapses, as well as to dropsy, physconia, &c.

Quinine in five grain doses every three hours seldom failed to arrest a common tertian: it often interrupted the course of a quotidian and finally cured it. If the quotidian was of long duration or violent in degree, it was of no use. In some cases of this type it was given in ten grain doses and produced febrile excitement, determination to the head, loss of memory and of the power of utterance; from which there was always a perfect recovery. Though the disease was characterised by spasmodic and inflammatory affections of the chest, these could not be traced to the operation of quinine.

If quinine often disappointed our expectations, cinchona was not of the smallest use.

One of our most useful remedies both in remittents and intermittents, was opium, which supported the patient under the exhausting effects of fever, without producing constipation or aggravating thirst. Dover's powder ℈i given two hours before a paroxysm, and persevered in daily for about a week cured some quotidians. It was sometimes given every three hours in ℈ss doses.

The warm bath was at best a harmless remedy. Prostration of strength and weakness of circulation counter-indicated the use of cold effusion, which was had recourse to in a few cases with temporary relief.

In collapse, the following treatment with modifications was generally had recourse to, and with satisfactory results.

The breast and epigaster were covered with a large sinapism, hot bricks applied to the feet, blisters to the calves of the legs, a draught of œther sulph. ℥ij in camphor mixture ℥j immediately, and followed up by wine, or beer every hour, half hour, or quarter, pro re nata.

Alcoholiferous stimulants were generally retained, but had no immediate effect in restoring the heat or circulation; when persevered in for 12 or 15 hours, they were of decided benefit. Though large quantities were administered, intoxication did not follow. It is needless to add that in very serious cases, stimulants were of as little use as any other remedies.

Thirst was a common symptom and difficult to alleviate. The patient either durst not drink or could not do so: he swallowed with a greedy difficulty, hastily and painfully; he was afraid of distending himself with a fluid which he could not get rid of.

Some of our patients felt as if what they had drank had been suddenly converted into boiling lead in their stomachs.

Though there were many cases of relapse, we were singularly fortunate in having so few of the sequelœ of fever. Up to the 1st December we had not a case of dropsy. This may reasonably be attributed to the non-salivating plan of treatment generally followed.

Post Mortem Appearances

Threw very little light on the nature of the disease; nor did these suggest to us any practical indications of cure. We do not believe that the essence of fever is to be discovered by the negative or positive morbid appearances after death.

In almost all the bodies which were opened there was copious effusion of red blood beneath the dura mater from: 15 to 20 ounces were frequently found. Effusion of serum into the substance and ventricles of the brain increased vascularity of pia mater: effusion of blood and serum into the theca vertebralis. Old extensive pleuritic adhesions in the thorax: seldom any effusion into the cavity of the pleura. Infiltration of bloody serum into the substance of the lungs.

The liver not altered in structure, but enlarged to two or three pounds beyond its usual weight in Europe. Gall bladder distended with bile.

The most invariable morbid appearance was enlargement of the spleen, which, in every fatal case was found to be a disorganized mass of dark grumous blood, weighing from one and a half to three pounds.

The external appearance of the intestines generally red or livid. In one fatal case, the mucous membrane was of a vivid red colour in its whole extent, shining through the peritoneal tunic. It generally appeared as if acute or subacute enterite had been the cause of death.

Stomach and intestines containing bilious and feculent matter. Patches of superficial ulceration in the large gut.

With the exception of fever, Deesa is singularly exempt from other tropical diseases, such as cholera, dysentery, hepatitis, bubo, and rheumatism.

In the 6th regt. the most prevalent diseases were fever, pneumonic inflammation, coup de soleil, delirium tremens, strictura urethræ, gonorrhœa, and swelled testicle; the two last diseases not more prevalent than at other stations. There were also carbuncles, prickly heat, and some cutaneous scaly affections. Purulent ophthalmia was very prevalent amongst children and women.

The absence of other diseases during the cold and hot months is awfully compensated by the intensity and extent of fever during

and after a heavy monsoon. There were comparatively few cases of dysentery, but those of an intractable nature, and often fatal. Twining's plan of treatment did not avail us, and calomel was of less use.

Many reasons might be assigned for the healthiness of the troops at Deesa. The purity, softness, and sweetness of the water is perhaps the first link in the chain of salutiferous agents. Good water must affect the growth and quality of every description of animal and vegetable food.

Raw spirits and strong grog must create in the soldier a thirst, which he can get nothing but water to assuage: it is therefore of importance to their health that this should be good.

The extreme dryness and purity of the atmosphere, and the extremes of heat and cold, must upon the whole be more salutary than a moist atmosphere, in which the temperature is more equable. Extremes of heat and cold are inimical to the existence of plague, and why not also to the miasmic causes of other diseases.

The dryness of the climate appears to give immunity from many inflammatory, spasmodic, strumous, rheumatic, and neuralgic diseases so common in damper climates.

Though healthy, it is by no means an agreeable climate. The hot weather is not debilitating, neither is the cold season exhilarating. In December 1834 the thermometer stood at 25° in the open air, and water in earthen vessels was frozen during the night, windows and doors being shut.

There is no irrigation nearer camp than one and a half miles, and only a barren stunted jungle. When there is a heavy monsoon the case is altered: then there is the rankest vegetation; wild and cultivated grapes and indigo grow in the greatest luxuriance.

There are no drains to carry into the river animal excretions, which are removed by halucores and deposited in nullahs about half a mile from camp. During the rains, when evapo ration goes on slowly, these nullahs must prove laboratories of miasm—and is not this sufficient to account for the palpable change of climate experienced by removing ten miles or so from camp?

The duty is not severe for a battalion 700 strong. Our men had generally three and four nights in bed. Their rations were very good, particularly the beef and mutton.

The difficulty of procuring liquor, and the high price of spirits in the canteen rendered at impossible for a soldier, on his pay, to be in habitual drunkard.

These paticulars are here ventured upon, to explain, in some measure, why our average daily number of sick, for many months was twelve and fifteen only. I find that on the 8th May, 1835, out of a battalion 791 strong, we had eight sick, and of those five were convalescent. I also find that on the 19th, 20th, and 21st March, 1834, our number of ineffectives was six only. On many other occasions, we had only ten sick of the whole battalion, officers, women, and children included.

At none of the stations, for European troops, so far as I know, in this presidency are there means for bathing.

It seems to me astonishing that such an important means for promoting health should have been either overlooked or neglected by government. An extra well with chunam baths ought to be built near the lines of every European corps, in the most private and convenient situation. The expence would be small—the benefit to the health and cleanliness of the men great.

Bombay, September, 1836.

SOME OBSERVATIONS ON THE TOPOGRAPHY, &c. OF DORUNDA IN CHOTA NAGPORE.

By Dr. Dunbar.

Continued from page 443.

To the Editor of the India Journal of Medical and Physical Science.

"Omne ignotum pro magnifico" is an old saying, the truth of which has never been disputed. Previous to the year 1832, few Europeans had ever visited Chota Nagpore, and the most exaggerated reports regarding the extent and unhealthiness of its jungles, the noxious quality of its waters, and the barren and unproductive nature of its soil were readily and implicitly believed. An experience of nearly two years enables me to assert that the climate of this district, though occasionally subject to sudden and severe changes, is by no means so prejudicial to health as is generally supposed.

There are, it is true, certain constitutions, and particular classes of men to whom the climate seems to be decidedly hostile. These men mostly come from Calcutta and the lower provinces of Bengal. The cold and biting winds which are so often experienced at Dorunda seem almost to paralyze alike their bodies and their minds. They are generally soon attacked with either intermittent or remittent fevers. Spleen disease supervenes, and many of them leave the country much emaciated, and with constitutions considerably impaired. Some there are, however, of this very class of men who becoming gradually inured to the climate, after passing through the preliminary ordeal of sickness, have afterwards continued to enjoy as good health as they formerly had in their native districts.

Before saying anything, regarding the effects of the climate of Chota Nagpore, on the sepoys of the Ramghur battalion, tried circumstances of considerable importance ought not be overlooked. 1st. The sepoys are not men of the country. An attempt was, I believe, made a few years ago by the desire of the late Governor General to induce the Coles of Chota Nagpore to enlist in the battalion, but with a few trifling exceptions the experiment was not found to succeed. The wild and restless spirit of the Cole could not be well broken in to submit to the rules of military discipline, and the saying of the Roman author with regard to another tribe, "ejus gentis ingenium disciplinam militarem prorsus abhorret," was found in this instance to be completely verified. Most of the men composing this battalion come from the zillahs of Behar, Shahabad, Ghazepore and Arrah, the climate of which districts differs in many respects from that of Chota Nagpore. 2d. The pay of the local regiments being somewhat less than that of the corps of the line, and several small advantages which the latter enjoy not being extended to the former, it follows that a similar description of recruits can scarcely be procured for the local regiments. The men who enter the Ramghur battalion are destined moreover to pass the greater part of their period of service in districts much unlike their own, and among a race of men who greatly differ from them in appearance, manners and customs, as well as in religion. Owing principally to these causes one does not find in this corps many such fine, tall, athletic forms as fill the ranks of the regiments of the line.

The men of the corps had long entertained a strong prejudice against the climate of Chota Nagpore, and in this they had been joined by many who had never even visited the country and who know nothing concerning its diseases. The prejudice alluded to seems to be now disappearing, and I hear far fewer complaints concerning the "nowa" and the "parona" of Dorunda than when I took medical charge of the regiment in January 1834. One or two of the outposts occupied by parties of the Ramghur battalion are, it is true, situated in unhealthy localities. Such are the stations of Katmaringwa and Manuboom. The fevers prevalent at these places are generally of a severe type, often bringing on obstinate spleen disease and not unfrequently destroying the very stoutest constitution.

Fever is a disease uniformly more or less prevalent in cantonments, varying in its character according to different circumstances, such as the season of the year, the constitution and habits of the patient, and his previous immunity from disease. Many of the recruits who join the corps are attacked with what may be called a seasoning fever, to use a common term, shortly after their arrival at Dorunda. This is in general of the *continued* type, and seldom proves very troublesome or obstinate. During the cold seasons we do not meet with very many cases of fever, and those that do occur assume in many cases an inflammatory character and are not unfrequently complicated with bronchitic affections, calling for the moderate use of the lancet and other antiphlogistic remedies. We seldom meet with many cases of low remittent fever until the rainy season sets in. Then the sick list swells prodigiously, and cases are daily admitted, precisely answering to the able description of that disease drawn up by Mr. Twining. The winds, it is to be observed, at this period blow almost constantly from the S. E. and are considered by the natives of the country to be very unhealthy, as it is supposed that they come loaded with vapour and miasm from the extensive jungle which stretches in that direction.

A good many of the old sepoys of the corps labour under enlargement and chronic disease of the *spleen*. These men present in their sallow countenances, and emaciated limbs, the never failing mark of that obstinate and debilitating disease—the result of frequent attacks of intermittent or remittent fever which had been contracted at some one or other of the different outposts.

Dysentery seldom makes its appearance until the close of the rainy or the commencement of the cold season. Old and emaciated subjects are usually the first to be attacked. In some of these men the disease assumes a chronic form; whilst in others it is of a more acute and inflammatory character. In cases of the former description the sulphate of copper with opium has been used extensively, and with advantage. Last year during the latter part of the month of November and all December, we had many cases of dysentery in an acute form. The corps was then on service in the Singboom district, and the head quarters were encamped, during the greater part of the time alluded to, near a small village called *Chitpele*. Directly in front of the camp was a ghaut or pass, about half a coss in length, leading to the valley of *Sumroo*, whilst on each side of the ghaut a range of hills rose to the height of about 500 or 600 feet. The camp was pitched in paddy cates which had only recently become dry, and in the rear was a thick and dirty jungle. The days were, generally speaking, and taking into consideration the season of the year, close and hot; whilst during the night cold and freezing gusts of wind swept with fury down the pass. I have experienced nothing in this country so cold as were those nights we passed at Chitpele, which used to bring back to my recollection the mountain breezes of my native land. The effect of such sudden and remarkable variations of temperature were as might have been expected soon visible. Many cases of fever and dysentery were admitted into hospital daily, and at one time out of a force of nearly 400 men there were no fewer them 70 or 75 in hospital mostly labouring under the above diseases.

In many of these cases of dysentery and remittent fever, more especially, when the diseases occurred in infirm or old subjects the period of convalescence at Dorunda has been

very long. Not a few men have had serious relapses, and in some others the alternate and complete recovery has been uncertain. Change of air in such instances I have found of the greatest benefit. Men who on leaving Dorunda for their homes were, strictly speaking, the "effigies, imo umbræ hominum," have returned in three or four months so changed and improved in appearance as scarcely to be recognized. I have already alluded to *bronchitis* as being a disease not uncommon at Dorunda. It is generally found to prevail during the rainy and cold seasons, sometimes combined with fever, sometimes not. Affections of the chest of a more severe and acute character have occasionally been observed, where the bloody sputa and the presence of the crepitating râles with other symptoms have plainly proved the existence of *pneumonia*. One or two cases have come under my notice, where, in their latter stages, the character of the expectoration, the presence of the cavernous râle, and of pectoriloquy proclaimed the previous existence of tubercles in the lungs, and their subsequent progress to suppuration. It is rather singular that during the hot and dry months of May and June, 1836, when the thermometer often stood at noon 104° in the shade, a considerable number of the men were attacked with *bronchitis* and sore-throat. The voice was hoarse; there was generally pain at the top of the sternum, and in some cases dyspnœa. The expression used by the patients when summing up their symptoms was "gula beit gia." Leeching, blistering, with antimonials, and the frequent inhalation of the vapour of warm water very soon produced a cure. In only one or two cases where the dyspnœa was rather severe and the febrile symptoms acute, was bleeding resorted to. *Rheumatic* affections are frequently met with at Dorunda, and I find that a considerable proportion of the old sepoys of the corps who apply to be invalided have suffered more or less from this complaint. *Ulcers* of a severe and dangerous nature occur among the old and debilitated subjects, principally in the rainy season. The slightest scratch or cut often becomes in such persons a foul and gangrenous sore, requiring the repeated application of the strongest remedies. The same kind of sore is not unfrequently met with among the prisoners in the jail of Kishenpore. I have heard it termed the "Nagpore ulcer," but there is nothing in its character and appearance different from the sores we commonly meet with among the sickly occupants of the jails at Burdwan and Bankoora.

As a proof that the climates of Chota Nagpore is not so very ungenial as has been represented, I may mention that during the time the Ramghur battalion has been canton ed at Dorunda, a period of nearly three years, only one European in the corps has died, and his fate was in a great degree attributed to his own imprudent habits. In a detachment of nearly 200 men of the 5th local horse doing duty at this post there has been no death, and very little sickness during the whole of the present year. This detachment is mostly composed of strong able bodied Mussulmans. They are, it is true, better paid and live better than the sepoys of the regiment, and they are not so much exposed to outpost service.

Dorunda, 18th October, 1836.

P. S. Erratum in last communication p. 441, 17th line from the top, 2d column, for "quarries of golden ore" read "small quantities of golden ore"

EXTENSIVE WOUND OF THE TONGUE IN A CHILD.

By W. Jackson, Esq.
Surgeon, 8th Light Cavalry.

J. L. J. a lively active child, was very busy on the morning of the 15th of August assisting the bearers to air the clothes, furniture, &c. &c. He took up a book and was running with it towards the house, when his foot slipped, on a green patch caused by the rains, near the pukka step, and his chin coming against it, his tongue, which must have been partly cut at the time, was forced with great violence against the upper teeth (which were loosened by the concussion) and almost cut through its anterior third, opposite the frænum. The wound, being of a contused as well as of an incised kind, did not bleed much, but on desiring the little patient to put out the tongue for the purpose of examining it, the anterior part fell quite over the lip and the edges of the wound receded so much that the end of the little finger might have been introduced into the cleft.

This effect must have been produced by an irregular action of the anterior fibres of the genio-hyo-glossus muscle which were no longer counteracted by the lingualis. However that may be, I was quite satisfied with a short inspection, and directed the boy to draw the tongue within the mouth, keeping it open for a few seconds, that I might see the effects.

I was delighted to find, that in this situation, the flap, if I may be allowed to call it so, exactly filled up the hollow space, and the only thing to be done was to keep the parts in apposition, and do as little as possible, till union took place and nature completed her own cure.

I therefore bandaged up the lower jaw to keep all quiet, told my little restless but sensible patient that he must on no account speak; and having procured a swan quill, I cut it into a proper shape for him to suck liquid through it. This was rather trouble-

some, as on his first attempt he succeeded in blowing the victuals in the contrary direction to his mouth, but by a little patience, he was soon taught enough of pneumatics to make a vacuum with his lips and thought it excellent fun. On the following morning, I ventured to look at the wound; with fear and trembling, which I did, by telling the boy to open his mouth without making any other kind of motion, and was glad to find that the wound looked well. On the third day it had quite closed, leaving a red bloody line, and in a week nothing was discernible except a line not thicker than a hair. For several days I enjoined silence to keep the tongue as quiet as I could, and in so young a child, this was a matter of no small difficulty; with the temptation of bearers and servants of all descriptions trying to amuse him. During the first twenty-four hours, however, I may say he scarcely uttered a syllable and expressed assent and dissent by motions of his head.

At present no one looking at the tongue, unless told of the accident would discover any appearance of it; though on minute inspection a curved line may be traced with the convexity towards the apex. I need scarcely add that it has not in any way affected his speech. Now, Mr. Editor, I have transmitted this case to you not for its importance, but because I believe it to be rather a rare accident, at least where the transverse wound was so severe as almost to separate the anterior third from the body of the tongue. I have never met with a similar case, and the great ease with which the wound united may be a useful fact to have on record in your valuable Journal for the guidance of others.

Few elementary works afford any satisfactory information on wounds of the tongue, but something may be gleaned from Cooper's First Lines, 5th Edition, of 1826. His earlier copies do not notice the subject.

"Some writers on Surgery," he says, have recommended all deep wounds of the tongue to be closed with a suture." Pibrac made a bag to confine the fore-part of the tongue. I followed Richter's mode of treatment, that of 'supplying a bandage to the jaw, making the patient refrain from talking and mastication, and allowing only liquid nourishment imbibed through a tube.'

A better one could not be devised, as it was attended with complete success. What then, I chiefly take credit for, in managing the accident is, in reality, my doing nothing, beyond preventing disturbance that the *vis medicatrix naturæ* might silently and surely exercise its salutary influence.

Sultanpore, 23d September, 1836.

CASE OF LEPROSY CURED.

To the Editor of the India Journal of Medical and Physical Science.

Dear Sir,—At the request of my friend, Mr. Cooke, of Tewarrah factory, I beg to forward for insertion in the *India Journal of Medical and Physical Science*, a paper connected with the cure of leprosy, a subject that is now occupying the deep attention of the profession in this country. Without disputing Dr. R. Stuart's claims to originality, I must state that for the last two years I have been in the habit of prescribing iodine for the cure of leprosy, and I may add with benefit, though from the manner of my practice among the natives, I have no good cases to send to you.

To return to the subject of the present address to you, I have only to remark with respect to the cases of cure contained in Mr. Cooke's paper, that I am perfectly sure of their being authentic. I have to add but one other observation, and that is to bear testimony after a long and ample opportunity of judging to the great and wide spread good conferred by the indigo planters upon the poor population of India. In the mere professional points of view to which I will confine it here, they confer immense benefit by dispensing medicines for the cure of fever, cholera, spleen and such like diseases.*

K. Mackinnon,
Assistant Surgeon.

Sir,—I have seen with pain the want of means for the support of the leper asylum as mentioned in the able "report on the leper asylum," published in the Hurcarru Newspaper of the 7th August, 1835. As a poor man, it is quite out of my power, in a pecuniary point of view, to "subscribe my mite," but I hope I am about to offer that which will be considered more valuable than even money. In one of the paragraphs of the report it is said, "a peculiarity of the disease is, that it is incurable." Without in the least

* Mr. Huggins, as Mr. Cooke has hinted at, is now no more. He was a kind-hearted and good man, and charitable as far as his means admitted. Some will tell me that the natives are ungrateful for the good done to them, a thousand proofs convince me of the contrary. One has just reached me whilst I was penning this letter to you, I give it verbatim et literatim; for it was written in English.

having a wish to negative this assertion, I only lay before you a case cured under my own eye of the severe or ulcerating leprosy in its worst state, the patient having lost, when he came to me for medicine, the greater number of his toes and fingers. The decoction of herbs I gave him, and which effected the cure, I procured from an old Persian Manuscript which is now mislaid, but of which I give the component parts. "A decoction of herbs." Take three seers of bunneel or wild indigo—surphonka—three seers of dhunpapur or sahatra (an herb growing among the rubbee crop)—three seers of old goor or molasses, as old as possible—three seers of the large hurreh, a kind of gall-nut—½ seer of morunghee cheretta, pound all together and well mix in four country pots (ghaillas)of water—allow to ferment in the pan for three or four days, when boil the whole till the liquor is reduced one half in quantity or two pots full. A pint of this liquor to be taken morning and evening:—to abstain from all kind of acids in food and sensual communication—all kind of nourishing food to be allowed—such as meats, fish, milk, &c. &c.—The above-mentioned patient was cured after taking this decoction daily for a month, and appeared when he left me quite cured; the ulcerated parts assumed a healthy look with fresh and new skin having formed on the sores. He was a Rajpoot by caste; and when he came to me did not refuse, but wished rather to eat from what left my table, which of course was given him daily. If this recipe should be tried by any of the faculty, it may be known whether it is worth the while to adopt it generally for a cure; at any rate there can be but little harm in the experiment; and if it prove to effect cures, a great good will be gained to humanity. I am neither physician nor surgeon, nor do I know what particular effect any one medicine may have more than another on the human frame. This I know. The decoction above-mentioned was given by me to a patient and he was cured, why may not others be so too? It is more than likely that this case may be laughed at by some. My only desire is that it may be tried; if it fails why many other remedies have failed to effect cures; if it should succeed how much is gained to humanity!

Huggins related the circumstance of the above cure to me last season, about the month of August, and I hinted to him he should send an account of it to the Medical and Physical Society in Calcutta; he said he had no objection, and desired me to note down for him a sketch of what he should write. The foregoing is what was written for him and approved by him; it has been laying in my writer's desk since last year, and the occasion of poor Huggins' death was the cause the paper was not more fully drawn out and sent to its destination.

W. Cooke.

Copy of a Letter Addressed By C. Mackinnon, Esq. Surgeon, to W. Cooke, Esq.

My Dear Cooke,—You had better send the paper on leprosy to Dr. Corbyn, Editor of the Medical Journal. It will be more valuable coming from you. Soon after, you told me of Huggins' receipt, I observed Sooqun, the Hurcarrah, you may remember, was affected with leprosy, and sent him to Huggins. He remained at Huggins' taking the medicine till H. died, and came back cured.

Honoured Sir.—I respectfully beg leave to inform your goodness that by the blessing of the Almighty, my brother through the aid of the club (your honor sent him) walked this morning and came out from the place where he was heretofore laying ill to the pucka private living house, wherefore, with much pleasure, I brought the circumstances to your notice, and return my most humble and unfeigned thanks for the kindnesses and favor which your honor has bestowed on him, by which he was recovered, or otherwise we were hopeless.

When your goodness are at leisure I will humbly thank you to trouble once more and see him walking kindly.

I remain, Honoured Sir,
with due respect,
Your most obedient humble servant,
Ameer Hussan.

Mozufferpore, the 21st Oct. 1836.

OF THE DETERMINATION OF THE DIFFERENT KINDS OF SCAPULO-HUMERAL DISLOCATIONS, THEIR PATHOLOGICAL ANATOMY, AND THEIR TREATMENT, BY DR. SEDILLOT, SURGEON AND DEMONSTRATOR OF ANATOMY.

Translated from the Journal des Connaissances Médico-Chirurgicales, with remarks,
By F. H. Brett, Esq.

(*Continued from page* 564.)

State of the cartilages and of the synovial membrane in subcoracoid luxations.—Our second observation has shewn us the articular surfaces deprived of cartilage and periosteum, comme éburnée, and playing in this state one upon another, at the sequel of an accidental luxation. It is not a mere circumstance, and a similar disposition is frequently found in coxo-femoral false articulations. M. Lobstein(1) has represented it as diognostic between luxations from external causes and spontaneous ones: in the first case, he says, the articular cartilage exists, in the second

(1) Lobstein, *Tratié d'anatomie pathologique.*

we no longer meet with it, as a necessary result of the morbid state of the articulation. To admit this doctrine, it is necessary to restrain considerably the application of it, since we relate here an example of accidental displacement where the articular cartilages had disappeared; and in answer to the objection that the articulation may have become the seat of some malady which had determined this result, we will add that in two patients, in whom I reduced accidental dislocations of long standing, the denuded osseous surfaces can be heard rubbing one upon the other, without intermediate cartilage or bone.

Sometimes there is developed in the false articular cavity, a semi-cartilaginous, thick, elastic, and somewhat rough substance, which supplies the place of the Cartilage, and then the head of the bone is not completely denuded. In general we find in every false articulation a synovial membrane or cellular web which resembles and occupies the place of it; only its continuity has not a constant character. When the osseous surfaces are exposed, it is evident that they are not covered by a synovial membrane, and yet the other parts of the articulation appear supplied with it.

State of the bones.

The exact position of the head of the humerus in luxations of the arm, has not been much attended to, and yet the study of this is indispensable in order to explain the direction of the arm, the state of rotation of the hand, &c. The spherical or articular portion of the humerus is that which is presented first in the direction in which the luxation is effected; that depends on the position of the arm at the moment of the accident, the resistence of the muscles surrounding the articulation, and the strength of the capsular ligament, which only yields before the direct pressure of the head of the humerus. Sub-coracoid luxations happen generally whilst the arm is elevated and separated at a distance from the body, and propelled by the injury downwards and inwards; but where they determined by a direct effort upon the shoulder, the muscles supra and sub-spinatus, and rhomboideus minor would act on the great tuberosity, into which they are inserted, would retain it in their own direction, and cause the humerus to roll in a manner, so as to occasion to project inwards first its articular surface. The capsule produces the same effect; for if the extremity of the humerus, was carried forwards whilst its spherical portion pointed backwards it would be returned by nearly the half of the capsular ligament, (posterior half), which would oppose a very great resistance. Hence the spherical portion is directed forwards, and meeting before it, the capsule, it rests upon it, breaks it, detaches it without much difficulty, because the whole effort bears upon a single point. Post mortem experiments confirm this fact; displacement is only accomplished by unpressing on the limb a violent rotatory motion in the direction in which we wish to effect it. The moment the capsule is torn, the head of the bone becomes engaged across this opening, slides under the tendon and the fibres of the musculus sub-scapularis, and rests on the neck of the scapula, and the commencement of the fossa sub-scapularis; it is in immediate contact with the lease of the coracoid apophysis, the extremity of beak of which is found somewhat under the trochiter; it corresponds by its neck to the anterior border of the glenoid cavity; the larger tuberosity looks outwards, upwards, and backwards, and passes the level of the articular surface of the scapula, the elbow is separated from the body and directed a little backwards, in consequence of the dragging of the capsule and of the muscles supra and sub-spinatus, and the action of the rhomboideus major and minor and dorsalis major; the fore-arm is bent by the biceps, the hand turned a little inwards, and deprived of supination by the fixity of the head of the humerus.

The reduction may be rendered difficult by the contact of the coracoid, apophysis, and the kind of reception or "engrenure" of the anterior edge of the glenoid cavity with the neck of the humerus. Also in directing the arm straight upwards, we are stopped by the coracoid process, and if we push it directly outward, we increase the "engrenure" of the bones, and consequently the obstacle. We must therefore lower the humerus a little, and carry it forwards in order to disengage and conduct it towards its cavity.

If the luxation is not reduced, the bones become deformed, and mould themselves one upon the other, as we have mentioned in speaking of the incomplete consecutive displacements. These alterations are more rapid if repeated movements are made, the limb ought to be kept immoveable in the interval of the attempts at reduction or when having failed in his efforts, he confides the patient to another Surgeon; in this manner we have less to fear relapse after having replaced the bone in its place. This precept is not however applicable to cases where it is necessary to combat the rigidity of the soft parts in a luxation of long standing, &c. Bones when displaced become atrophied lengthwise, and in their circumference—a result extremely slow, but necessary to be known, to avoid errors in diagnotis. When the articular cartilage has disappeared, the long surface is generally granulated, croded, surmounted in its circumference by osseous tubercles, giving the appearance of having become curious, which is not however the case; these appearances depend on interstitial absorption.

The glenoid cavity becomes equally deformed in the sequel; its anterior edge flattened and effaced, joins itself to the neck of the scapula to form the new articular cavity: sometimes even (vide IInd. OBS.) all the

glenoid cavity participates in it, and then reduction is no longer possible, and the only indication, if we have recognized the state of the parts, is to endeavour to augment the mobility by frictions, embrocations, cold effusion (des douches) and above all by exercise, which may conveniently dispose the bones in connection with each other, and lengthen sufficiently the ligamentous apparatus to render to the false articulation an extended play. In the normal state the arm cannot be elevated beyond a right angle upon the ponoplate, elevation beyond that point depends almost entirely upon the scapula. In unreduced sub-coracoid dislocations, the levator muscles are not in a condition absolutely unfavourable, and if they could overcome the resistence of the short and thick ligamentous fibres which retain the bones in contact, mobility would be re-established, at least in a measure, and the coracoid process would replace, though imperfectly, the acromion. The efforts of the surgeon ought then to tend to this end, to which he may attain by constant and suitably combined exercise. The following is an example, and I quote it here because it shews the possibility of detecting on the living the alterations which we have already described. VIth OBSERVATION.—M. de J. G. twelve years of age, was brought to me in July 1833, with a luxation of the right shoulder of three years duration. After a fall, this child complained of a severe pain of the shoulder, with difficulty of movements and impossibility of raising the limb.

The accident having been mistaken, frictions, liniments, some leeches, and a blister were prescribed for three months, and the limb sustained on a sling; at the end of this period the emaciation of the limb was such that other medical men were consulted; they detected a luxation, and pronounced it incurable, in consequence of its being of so long a date.

On examination, I found the humerus strongly rotated inwards; the greatest effort in a contrary direction sufficed only to place the condyles *de champ*: consequently the bend of the arm was turned inwards, and could not be brought forward; the patient could only elevate the fingers to the nose by extending them to the utmost possible degree, and lowering the head to meet them; on aiding the movement by drawing the arm, the fingers passed the brows to the extent of some lines.

Viewed anteriorly, the right shoulder is smaller and shorter than the left. From the middle of the superior edge of the sternum to the external tangent of the point of the shoulder the distance is five inches and six lines, on right side four inches and eleven lines. From the middle of the acromion to the point of the olecranon, on the left eight inches three lines, on the right seven inches six lines. These measures indicate the defect of the right shoulder, and the shortening of the limb on that side, owing to the atrophy of the humerus.

The fingers can be placed under the acromion which is the most projecting point of the deltoid region; but instead of arriving at the glenoid cavity, the finger meets the head of the humerus, which is flattened and prolonged backwards, so as again to cover its ancient natural cavity. Movements impressed on the arm, and traced by the fingers leave no doubt on the subject. The coracoid process elevates the integuments, and underneath it a portion of the head of the humerus, these two osseous projections form one eminence, but are distinguishable by gently moving the arm. This case offers the most perfect analogy with our second observation, and it can be clearly ascertained, I think, that the head of the humerus, primitively luxated under the coracoid apophysis, is put gradually in connection with all the glenoid surface, and becomes skinned and prolonged backwards.

The indication appeared to me to re-establish the movements; the limb was subjected twice a day to traction, at first light, but the force and duration of which was successively increased; warm embrocations, "*douches*" at first simple, then alkaline, and emollient applications. These tended to diminish the pain, to prevent engorgement, and keep off inflammation. In addition to the traction, a movement of elevation rendered continued or graduated by means of an apparatus on the principle of Pullies. After two months of this treatment, which was not always very punctually executed, mademoiselle could elevate her hand above her forehead, and with a little assistance, she could carry it above her head. The complaints, however, of the young patient, whose health nevertheless, far from having suffered, was ameliorated; and the ennui attending daily attendance, fatigued the parents, so that they wished no longer to continue the treatment.

One more remark on the alterations of the bones, is applicable to false articular cavities, developed on the neck of the scapula or fossa subscapularis; these cavities do not appear to result from the wearing of the excavation of the omoplate but form an osseous deposit around the head of the humerus, so as to produce a cavity more or less deep, without diminishing the thickness of the omoplate; the mechanism of this deposit or osseous brim is as simple as it is curious. I have already described it in a separate memoir.

Anchilosis is frequently spoken of as an accident consequent on luxations: I do not believe that a complete anchilosis is ever formed after displace of the shoulder; but the contact of the bones may become so straightened, as to resemble it.

State of the ligaments.

In our two first observations, and in all the cases of ancient sub-coracoid luxations that I have been able to collect, a complete capsular ligament surrounds the glenoid cavity and the new or false articular cavity: this is

a constant fact which merits explanation. At the moment when the displacement is effected, the normal capsular ligament is broken or detached from its humeral or capsular insertions, of the side in which the luxation is produced, and the head of the humerus is carried in part or entirely beyond this rent, the edges of which it stretches on itself. It is a disposition very important to establish, because when ill understood, it is the source of numerous errors. The head of the humerus is not enclosed in the capsular ligament, as a free body playing in a cavity, from whence it might escape whenever a rent or an opening sufficiently large might give it exit. It receives at its neck the insertions of this ligament, and unless it be completely separated which is impossible in sub-coracoid luxations, it necessarily carries the ligament along with it by the attached portions remaining uninjured. Hence this remark founded on the dissection of recent luxations and on numerous post mortem investigations; the capsule is torn in the direction in which the head of the bone presses it at the moment of luxation, thus, in all the displacements forwards, it is on this direction that the capsule is torn. This rupture more frequently takes place at the anterior border of the neck of the scapula; often also near the humeral neck, more rarely in the middle of this space. Let us suppose the first case, which is the most frequent, the head of the humerus escapes from its cavity, encircled by the tendon and some of the fibres of the musculus subscapularis, which form with the cellular tissue its new connections, in lieu of the capsule; but this last is uninjured behind, its insertions to the posterior part of the neck of the humerus and of the scapulum are entire; it follows the movements of displacement of the humerus, and establishes a kind of bridge over the ancient, and the new articular cavity; if the luxation is not reduced, the torn edges of the capsule, which remain supported on the edge of the humerus contract adhesions with the cellular tissue of the subscapular muscle, and become continuous with these parts. These in contact with the head of the humerus, and submitted to its movements, become more and more dense, then fibrous, then ligamentous, and ultimately, differ in no respect from the true capsule, which they prolong and replace. Dissections also shew that the capsular ligament has all its normal insertions, excepting those which develope the head of the humerus in its new situation on the scapulum, from whence they take their origin, and which are owing in a great measure to the transformation of the fibres of the sub-scapular muscle, into ligamentous tissue.

If the luxation is still recent, and we wish to effect the reduction, it is evident that we cannot convey the head of the bone towards any other point of the capsule than that of its vent, as most authors pretend, who recommend it to be brought back by the same way as it followed when luxated, so as not to present it to a portion of the capsule remaining entire. If the head of the humerus be directed towards any other point of the glenoid cavity than that by which it passed out, we only augment the vent of the capsular ligament, which follows the movements of the humerus to which it is inserted, and cannot present itself uninjured before it.—The precept also of bringing back a consecutive to the state of a primitive luxation before effecting the reduction, has only tended to obscure science, and to create obstacles in practice, as we shall shew.

The capsular ligament, however, may become a source of difficulty in the reduction. In recent luxations, it does not oppose the return of the limb into its cavity, provided the direction which is given to the humerus and the rotation are conducted, so as not to act upon it; then, indeed the capsule is relaxed, and the reduction is easy; but if we produce extension in such a manner as to draw the capsular ligament, we create great obstacles; sometimes arising from traction being effected, on all points of the capsule, which resists by reason of its solidity which is considerable; sometimes by causing the force to bear on one of the extremities of the vent of the ligament, the opening of this is very much stretched, and strangles the head of the humerus, the neck of which it embraces. These obstacles do not of themselves exist, they are occasioned by false manœuvres which it is the part of the skilful operator to avoid.

It has been said that the head of the bone in returning into its cavity, might push before it a portion of the torn capsule which would prevent the re-establishment of free movements. The following is the manner in which this circumstance happens in the dead body: the capsule in place of becoming detached from the scapulum, is separated more or less near to the humerus, and this latter escapes from its cavity folding under its neck the capsular shred; it is this shred, or rather this portion of capsule which may be pushed towards the glenoid cavity, at the moment of reduction; but is merely requisite to raise up the humerus a little, and to give it some slight movements of rotation, in order to extend the ligament and to disengage it, all these dispositions of the capsule are easily verified on the dead subject, and we may rely with more confidence on this, inasmuch as the state of the ligaments differ but little in a displacement effected during life or after death and that the experiments of Sue Chopart Motte and myself have constantly given the same results, and confirmed the dissections of recent luxations.

The obstacles are more serious in luxations of somewhat long standing, and the increase, as all practitioners have remarked, in a ratio with the length of time transpired since the accident, but what are they? we have already investigated those which appertain to the osseous deformities, the following are those which occur to the capsule; this ligament like all fibrous tissues has a natural

tendency to accommodate itself to the new situation in which it is placed ; it also returns upon itself by a slow force of contractility in all the points in which it is relaxed ; and after a certain time it is throughout extended and moulded on the parts, with which it contracts intimate adhesions ; it is then that the extensive movements of Desault might produce a favorable effect : extensions well regulated are also of great use and by firmly fixing the omoplate, and using the arm as a lever, we succeed in lengthening and tearing these very contracted adhesions, and principally those of the new capsule ; it is especially towards the inferior part of the false articulation, that these adhesions, are of vast length, and most resisting, and my apparatus for destroying them is most favorably contrived to effect that object.*

In very ancient luxations, these dispositions greatly increase, the capsular ligament becomes more and more dense, and hardly allows the articular surfaces to be separated one from the other, all effort at reduction whether by assistants or by machinery are useless, and in order to increase the mobility of the articulation we must have recourse to methodically combined and long sustained tractions,(vide VI obs.) to lengthen gradually the ligamentous tissue, and to impart to it a degree of suppleness.

State of the Muscles.

Generally, all the muscles, and their tendons remain unaltered with the exception of some fibres of the subscapularis which are extended by the humerus. The tendon of this muscle covers in part the head of the bone, and it may also confine it towards its neck, as has been demonstrated by the fifth observation, (vide V. obs. et pl : IX.) but it is only necessary to effect a slight movement of rotation inwards,to effect its relaxation,and remove the strangulation. The supra and sub-spinatus muscles, and rhomboideus minor, are drawn by the humerus in the direction of the displacement ; they are found powerfully stretched and covering the glenoid cavity, from which they are only separated by the glenoid cavity. It is probably owing to their continual contraction, that we must attribute, in luxations of long standing, the incomplete consecutive displacement that we have noticed (vide 1st and 2d Observation) a displacement, which brings back the external side of the head of the humerus before the glenoid cavity, and replaces the larger tuberosity in an almost normal position.

These muscles may, in recent luxations, oppose the reduction, the sub-scapularis by contracting itself on the humerus, and preventing its being carried outwards, the supra and sub-spinatus and rhomboideus minor, by pressing the head of the bone against the border of the glenoid cavity, and preventing its disengagement ; but in no case can they constitute an intermediate obstacle between the humerus and its cavity ; it is an error similar to that which has been committed regarding the capsular ligament and which we have already refuted. It is here still more palpable, and we explain this better by comparing the muscles which surround the articulation to elastic bands ; whatever direction we give to the head of the humerus, we shall have some muscles relaxed and others extended ; but at the moment of reduction, we shall in no case meet with muscular portions against which the head of the humerus would fall, because the muscles contract before it, and are disposed to reassume their natural length. The resistences would rather depend in ancient luxations on the muscles ; which having been put in relaxation at the moment of the accident, return upon themselves and are shortened ; it ought then to be somewhat difficult to lengthen them ; yet I have not perceived such to be the case in old luxations, on the dead subject. They are easily reducible, after having destroyed the obstacles of the ligamentous tissue.

In the subcoracoid displacement, the subscapularis would be the only retracted muscle, and it would produce no other possible effect after the reduction, than that of rotating the humerus inwards for some time, which would soon yield to the influence of exercise.

The tendon of the long portion of the biceps does not escape from the bicipital groove in the sub-coracoid luxation. At least no example is on record ; and I do not believe either that it becomes broken at its insertion into the glenoid cavity ; the deformities which it sometimes presents are better explained by the new connections, and pressure to which it is submitted, than by an ancient rupture. With regard to the modifications experienced by the sub-scapularis muscle producing the new ligamentous apparel we have explained this in speaking of the state of the ligaments.

The therapeutic consequences of the state of the muscles are : 1st, the precept of elevating the humerus, and lightly rotating it inwards, so as to relax the deltoid, supra spinatus, and to permit the head of the humerus returning into its cavity, into which the sub-spinatus and rhomboideus minor direct it, which aid in the reduction by the extension which they undergo :—2ndly, to bend the fore-arm, in order to avoid the tension of the biceps. If the luxation were of long standing it would be necessary to insist upon the movements of rotation, to disengage the head of the humerus from its mediate adhesions with the musculus sub-scapularis. I do not here allude to the other means employed for favoring the reduction, such as diverting the attentions of the patient, and muscular debilitants, because they have no connection with the pathological anatomy.

* Voir mes Mémoires sur une luxation du bras en arrière réduite au bout de plus d'une année, et de l'emploi du moufle et du dynamometre dans le traitement des luxations.

REVIEW.

A Treatise on the Functional and Structural Changes of the Liver, in the Progress of Disease, and on the Agency of Hepatic Derangement in producing other disorders; with numerous cases, exhibiting the Invasion, Symptoms, Progress, and Treatment of Hepatic Disease in India. By W. E. E. Conwell, M. R. I. A. *Surgeon of the Madras Establishment, Docteur en Médecine de la Faculté à Paris, &c.* 8vo. *pp.* 531. Messrs. Thacker, & Co., Calcutta.

Continued from page 568.

We now proceed to consider section the second which describes the symptoms of acute hepatic diseases. To give our readers any idea of the manner of our author's mode of specification by an outline, would be next to impossible, it is altogether novel, learnt probably in the Hotel Dieu, but certainly not in the hospital wards in any part of Britain. Although long absent from witnessing in person the recent practice and mode of instruction in London hospitals, thanks to the Editor of the unshackled pages of the *Lancet*, the clinical practice and lectures in Europe have been freely and copiously published 15,000 miles away, keeping us thoroughly acquainted with all and every thing going on there. We trust the medical free press now established here under a liberal government may prove itself equally useful. But to return to Dr. Conwell's work the following is his account of the symptoms of acute hepatic diseases:—

Symptoms of hepatitis produced by nervous agency:

1. Severe, deep-seated, dull pain in the posterior part, or in the centre of the head.
2. Pain and stiffness of the back of the neck and base of the head.

3. An arid state of the fauces and difficulty of correct enunciation; red tongue, loss of fur, total disappearance of the lingual papillæ.

4. Pain of the back of the neck, and of the posterior superior part of the shoulder, from the spine along the margin of the trapezius to the shoulder joint.

5. Strong and painful beating of the carotids.

6. Stiffness, soreness, sense of weight or oppression in the lower part of the neck; increased action, pain, soreness, or oppression of the heart.

7. Pain at the præcordia.

8. Embarrassment of breathing, and oppression about the epigastrium, lower part of the thorax, or hepatic region.

9. Pain in the region of the stomach, loss of appetite, nausea, and various dyspeptic symptoms; thirst, febrile excitement, especially after eating; vomiting, white-furred tongue, prostration of strength.

10. Pain in one side of the face, sometimes apparently connected with the alveolar processes, and sometimes with the ear.

11. Pain in the right side just at the gall-bladder, or in any part of a line parallel with it, but generally on the right side.

12. Pain, numbness, heaviness, or stiffness of either arm, or both.

13. Crick, or pain of the neck.

14. Stiffness and pain of the loins.

15. In the early stage, irritation, local pain, and sense of weight in the loins, with diminished excretion from the kidneys; the urine being dark like wine lees, or the colour of brandy.

16. Pain at the top of the shoulder, or extremity of the clavicle.

17. Pain, numbness, heaviness, or stiffness of the shoulder.

18. A shooting pain in the breast.

19. A constant dry cough.

20. Dyspnœa with sense of oppression and tightness with or without pain.

21. A dragging or a gnawing pain about the region of the liver.

22. A stitch, catch, or lancinating pain, on breathing, about the lower part of the chest.

23. Pain in the region of the liver, on turning in bed, moving suddenly or quickly, or on the body being shaken by making a slip or a false step; frequently with tenderness on pressure.

24. Disturbed sleep.

25. Greatly increased action of the abdominal aorta, and frequent palpitation of the heart.

26. A sense of fulness in the chest, and inability to make a full inspiration.

27. A sense of tension, or heat, at the epigastrium.

28. Pain extending in the course of the colon from the cæcum to the sigmoid flexure.

29. Pain of the right kidney, more rarely of the left.

30. The patient lies with more ease on the right side ; but this varies according to the extent and part effected, and to the new relations or adhesions that part may have formed.

31. Pain of the back, simulating rheumatism, from its greater severity at some than at other times.

32. A sense of strangulation at the larynx.

33. Pain in the eye-ball.

34. Pain in the forehead over the eyes.

35. Pain about the pelvis and superior portion of one or both thighs.

36. Pain of the right or left knee.

Now we particularly call attention to Nos. 1, 2, 3, 6, 7, 10, 12, 13, 14, and enquire whether these are not far more applicable to many other diseases, and therefore whether they are most likely to puzzle the young Indian practitioner, and to distract him from the real nature of the disease and its treatment? We have felt it our duty thus prominently to expose the errors in this work, lest they might mislead the young practitioner and be productive of considerable mischief. The following contain some truths, but so injudiciously arranged as to defeat the object of utility.

Symptoms produced by an irritated and congested state of the Lumbo abdominal ganglia and plexuses, and of the cauda equina.

37. Cramp of the right or left leg, or both.

38. Pain of the right or left heel.

39. Pain on the dorsum of right or left foot.

40. Cramps of the soles of the feet, and toes.

41. Numbness of the legs and feet.

42. A sense of formication on the legs and feet.

43. A burning sensation of the legs and feet, observing regular daily paroxysms that produce excruciating pain.

44. A degeneration of the tissues, whereby the muscular and cellular tissues of the legs and feet become rigid and hard.

Symptoms indicated by the renal excretion.

1st. The urine is scanty, red, dark, tinged with bile, like wine lees, impure, opaque, and largely blended with a substance like coffee or chocolate grounds.

2d. The urine being like stale or recently prepared decoction of cinchona and opaque, then after a few days, becoming largely blended with pus, quite opaque and milky for several days ; and afterwards gradually becoming like milk-whey, and opaque. As the removal of pus from the liver decreases the urine generally becomes progressively pale.

116. *Symptoms resulting from deranged action of the abdominal circle of vessels.* Deranged hepatic action induces engorgement of sundry parts of the abdominal circle of vessels, and according to individual condition and circumstances produces : *first*, hepatic diarrhœa ; *second*, dysentery ; *third*, ulcers of the large or small intestines, or both ; *fourth*, inflammation of the mucous coat either of the small or large intestines ; *fifth*, engorgement of the mucous coat and piles ; *sixth*, peritoneal inflammation ; or, *seventh*, mesenteric disease.

117. *Symptoms from the general circulation.* The pulse is hard and full, large or small, and sometimes oppressed ; or it is dilated, soft and feeble.

118. *Symptoms as to the tongue.* 1st, The surface is red, furred white, with thirst ; 2d, furless and red, sometimes smooth ; 3d, marked with sulci and red ; 4th, presenting a pale spot near the top ; 5th, ulcerated and red ; 6th, dark brown, dry and hard.

119. *Physical Symptoms.* Fulness, tenseness, or hardness of the region of the liver, and sometimes distinct swelling or dilatation of the inferior part of the thorax, and occasionally puffiness of the integuments over the liver.

120. *Symptoms of the gastro-intestinal tube.* 1st, In the early stage, costiveness and rarely looseness ; 2d, in chronic hepatic disease, diarrhœa and dysentery occur.

121. *Symptoms indicated by the skin.* In the early or acute stage, stinging heat and dryness. In the chronic stage, or after suppuration, moist or wet skin from profuse sweats.

122. *Symptoms indicated by the palms of the hands and soles of the feet.* Always in the early stage, and sometimes in the chronic, burning arid heat, especially after meals, with fulness and hardness.

The author proceeds to notice no less than eleven terminations of hepatitis. Resolution, effusion, adhesion, suppuration, ulceration, granulation, cicatrization, mortification, matastasis, chronic diseases, a scirrhus state, morbid increase or decrease of the volume and degeneration into other tissues. We need only advert to a few of these terminations ; viz. effusion from substances said to take place into the hepatic tissue as shewn by the existence of large cysts hydatids. Adhesion of the peritoneal covering of the liver to the adjoining parts so

frequently detected proves that effusion has preceded that state. The following approximates nearly to the real state of things.

127. *Suppuration* is a very frequent termination of hepatic inflammation. It takes place in many cases before the patient applies for aid, and hence it is so much the more necessary that its symptoms should be very perfectly and generally known ; that all doubt as to the nature of this dangerous malady, concealed under such slight symptoms, should cease ; and the enemy be detected and opposed from the earliest moment of invasion. A large proportion of the symptoms which distinguish hepatitis in many of its modifications, seem to have, except to those well experienced and acquainted with hepatic disease, no direct or apparent reference to inflammation of this viscus. The sympathy of nervous agency will, however, throw ample light on their characters, causes, and connexions.

128. The *symptoms* of hepatic abscess are, rigors, slight or severe, and sometimes shivering fits, succeeded by cold sweats, more or less profuse. Also cold sweats, not preceded by any remarkable changes ; large soft pulse ; cold clammy skin, cessation or decrease of hepatic pain where that symptom existed ; clean red tongue without fur ; nocturnal hectic fever; enlargement in the hepatic region ; deformity of the thorax by increased lateral convexity ; faintness, giddiness and weakness, especially in the erect posture, and still more so on rising or suddenly changing position ; anorexia ; red urine, either like wine lees, or dark like brandy, in both cases scanty, or resembling decoction of cascarillæ, infusion of simaroubæ, or infusion of digitalis ; or it is milky and quite opaque, containing a large quantity of pus, variously stained by bile ; also obstinate sleeplessness, which is nearly the most distressing and remarkable symptom; intestinal ulcers, and occasional purging.

129. *Ulceration*. After the symptoms distinctly evince the existence of an abscess, those of inflammation are partially continued, being at times greatly aggravated, and at other periods partly or wholly ceasing ; and then again re-appearing. In this condition it seems that the abscess is becoming augmented from time to time, by the formation of additional pus ; or new tubercles are forming, and here the process of ulceration exists.

130. *Granulation*. The process of healing takes place frequently in the liver ; that is, large tubercles or abscesses disappear, the pus being absorbed in a manner that will be explained. The cavity in such cases ceases to exist, owing to the progressive approximation of opposing surfaces to each other, and the granulation and gradual filling up of the remaining part of the cavity. Sections of the tissue that has undergone this process, present surfaces having a closer and more dense texture ; which does not possess the granular bodies or acini, possesses them in a lesser degree ; and a white fibro-cartilaginous and irregular structure or membraneous body is found dipping into the hepatic substance, and appearing to reunite the surfaces of the cavity which had contained the pus.

131. *Cicatrization*. This is very frequently observed on the liver with outward characters, similar to those it presents on the surface of the body. That is, a white patch is observed, generally depressed at some part, and sometimes elevated with irregularly corrugated margins. From those cicatrices processes extend into the hepatic substance, and fibro-cartilaginous bodies are frequently seen throughout the substance of this gland (*see* Dissection). On cutting into a white cicatrix, it is found to be a condensed new structure, resembling semi-cartilaginous or fibro-cartilaginous tissue in firmness, and of unequal thickness. It is the product formed to effect and consolidate the reunion of parts, on removal of pus from a cavity. I have seen scars on the hepatic surface three inches in diameter ; their margin being about a line in thickness, and varying in some other parts from this to half an inch, which is a large size. They are usually smaller, but sometimes the reverse.

Our author says that post mortem examination has shown that the liver had mortified. Mortification of the hepatic tissue came under his observation in one instance, and that of the envelopes in another. After opening an abscess the patient retrogaded, the gangrene commenced with the parietes or surface of the abscess. Metastasis is noticed as being a transition of inflammation from the liver to other parts, besides the gastro intestinal tube, the mucous lining of all the viscera, and the external surface of the body are all of them subject to inflammatory attacks translated or extending from the liver. The scirrhus enlarged liver has the adipocire of its parenchyma increased, and it varies more or less from a pale yellow to a dark or chocolate colour. The scirrhus diminished liver is either pale yellowish, livid, or flesh colour. The enlarged liver being frequently found in bloated subjects, and the diminished in emaciated bodies ; but this rule Dr. Conwell states has objections. In those persons addicted to wines and alcoholic fluids the hepatic structure degenerates into cellular and fibrous tissues in the linings of cysts ; and cartilaginous and osseous tissues are formed in it under similar circumstances, the following is a synoptical table of the diseases of the liver :—

SYNOPTICAL TABLE OF THE DISEASES OF THE LIVER.

DISEASES OF THE LIVER.

Deranged functions.

- **The hepatic secretion is diminished, impaired, or impeded at times in these different modes, all of which are marked by a deficiency of healthy bile in the gastro-intestinal tube.**
  - 1. Languor or decreased secretion, called torpor of the liver.
  - 2. Partial suppression of the biliary secretion.
  - 3. Biliary concretions impeding the transit of bile.
  - 4. Retention of bile in the biliary vessels.
  - 5. Secretion of bile defective in quality.
  - 6. Accumulation of bile in the biliary apparatus.

  The following forms of disease are produced by functional derangement of the Liver:—

  - **Hepatic dyspepsy.** — Muco-intestinal capillary derangement and honey-comb ulcers in the ileum,—the suite or consequence of previous disease, rarely idiopathic.
  - **Ephemeral bilious fever.** — Preternatural irritation, originating from cerebral or abdominal stimuli, as solar heat, excess of repletion, &c.
  - **Common bilious fever.** — Sanguineous congestion with deranged function of the liver and gastro-intestinal irritation.
  - **Hepatic diarrhœa.** — Muco-intestinal exhalants preternaturally stimulated by irritation.
  - **Acute hepatic dysentery.** — Pustular ulceration of the mucous lining in the cœcum and large intestines.
  - **Chronic hepatic dysentery.** — Passive or chronic inflammation of the mucous coat lining the large intestines.
- **The hepatic secretion becomes superabundant; or it may be transmitted into the hepatic veins and become blended with the circulating blood.**
  - Excessive secretion of bile.
  - Jaundice.

Blood may accumulate in the hepatic parenchyma.

- Congestion of blood in the Liver. — Sense of tension, with hepatic derangement and fulness, producing febrile excitement.

Diseases that produce serious derangement of the hepatic functions.

- Congestive bilious fever*. — Congestion of the Portal vessels, especially of their extremities, in the mucous coat-lining the lower part of the ilium (usually ulcers) and tending to cerebral engorgement.
- Congestive nervo-bilious fever†. — Congestion of the Portal vessels, especially their extremities, in the inferior part of the ileum, (and generally ulcers), hepatic derangement, inflammation of the interior surface of the arteries, and great tendency to cerebral engorgement and effusion.
- Mercurial erethism. — Irritation of the gastro-intestinal capillary system, violently affecting the nerves, with tendency to cerebral engorgement and effusion.

Inflammation.

- **Acute.**
  - Of the hepatic envelope.
  - Of the hepatic parenchyma. — Abscess.
- **Chronic.**
  - Of the hepatic parenchyma.
    - With increase of volume, and structural change.
    - With decrease of volume, and structural change.

  Produce intestinal and Rheumatic diseases.

* Ordinary Jungle or Hill fever.

† Penang fever, the severe form of Hill and Jungle fever; Bulam, Siam, &c. Yellow fever.

To be continued.

THE INDIA JOURNAL
OF
MEDICAL AND PHYSICAL SCIENCE.
Calcutta: December 1, 1836.

CONSTITUTION
OF THE
MEDICAL DEPARTMENT,
H. M. AND H. C. SERVICES
CONTRASTED.

Having now considered fully the constitution of the Medical Department in His Majesty's and the H. C's. Services we proceed to contrast them as regards pay, rank, and pension. We beg the attention of our readers to our number for January 1836, wherein is fully shown the deep interest His Royal Highness the late Duke of York took in improving the condition of medical officers in the King's army. It had been found that the pay had been such that properly educated men would not enter it, a warrant was accordingly issued by order of His Majesty approving of an arrangement for increasing the advantages and improving the situation of medical officers with the view of "*encouraging able and well educated persons* to enter *and continue* in *that line*," of His Majesty's Service. Now we have maintained, from the tenor of that warrant, that it is evident His Majesty would never have issued it if the evil effects arising from smallness of pay and inferiority of rank had not deterred well educated persons from entering into and continuing in H. M.'s medical department. We conclude from the word to continue that the respectable portion had quitted and left Smollett's Morgans alone to discharge the important duties. The result as shown by us was that so far back as 1805, the position of medical men was put altogether on a new and respectable footing as regarded pay, in comparison with that before allowed. What was the further result? A decidedly beneficial change and hence a manifest improvement in the health of the troops; proving that to the Government it was unquestionably a most economical arrangement. It now secured the services of men who had incurred the expense and labour necessary for the acquisition of that correct and systematic education which alone can qualify gentlemen for the proper discharge of the important and sacred duties of the physician and surgeon, who were willing to devote their talents to the investigation of the causes upon which the preservation of health depended. Such an investigation appeared obviously to be the imperative duty of the state to require; although it involved the apparent additional expense of remunerating men capable of the task as an inducement for them to accept commissions and to continue in the service. The soundness of the reasoning is incontestibly proved by experience. The pay was therefore again increased, and in 1829 other improvements were made as regarded mess, board, servants' allowances, passage allowances to foreign stations, compassionate allowances to widows, orphans, and even to mothers and sisters, when left destitute, under peculiar circumstances. In 1830, another warrant was issued by H. M.'s command still further improving the rate of pay with additional allowances for servants in hot climates. Thus shewing, beyond doubt, that in the king's service, as regards pay, it has progressively increased.

How has it been in the service of the Hon'ble Company? In considering what the pay of highly qualified medical officers in India should be, we have maintained that it was reasonable to expect that their services should be better remunerated here than in any other part of the world; because being mere sojourners, that is to say not permanent inhabitants of the country, their only object in coming to it would be to secure an independence, and to quit it again as soon as possible. No professional man ever came to this country, we will venture to prove, under the impression that he would not be able to secure something beyond a bare subsistence to enable him to retire long before a service from 35 to 40 years. We need not tire the patience of our readers by going over the grounds on which we have so fully established the fact, that this, notwithstanding, has never been the medical officers'

reward in the Hon'ble Company's service. The history of this department shows the reverse.

In the King's service there has been progressive improvement as regards pay, while in the Honourable Company's there has been progressive and considerable reductions. That at this moment the circumstances of its members are such as to excite universal alarm, that unless some favourable modifications be speedily made, the medical service will deteriorate. But before quitting the subject of pay, there is some points we feel ourselves called upon to advert to, and earnestly, but respectfully, to urge on the serious attention of the Government and the Hon'ble Court of Directors.

In addition to other grievances of their medical department, we beg to atate that a memorial on the subject of pay to the home authorities has not been replied to or even so much as the receipt of it acknowledged. Simultaneously with the half batta order, in 1828, the compensation for the medicine allowance was directed to be paid under the designation of Majors' batta, Surgeons at half batta stations, however, lost half their compensation instead of half their batta *i. e.* of the Captain. Although the mistake was eventually rectified, yet it existed for three years. Several surgeons suffered the loss during that time who never had their arrears paid up. They sent in a memorial to the Honourable Court; but it has not to this day been acknowledged. Other memorials were sent in about June, 1835, to the Honourable Court, signed by a great number of medical men, regarding the reduction of two superintending surgeoncies as it affected the pay and allowances of members of the service. These have not been acknowledged either. The members of this service can never cease to look to the Honourable Court and the Government of this country as their only patrons and friends, and it is an aggravation of their depressed condition when they find their respectful and humble appeals overooked and we are sure the Court and the Government will be glad that we have brought this oversight to their notice.

On comparing the pay and allowances, as described in our several articles, it will be found that they do not cover the expenditure of the medical officer. This is not the case in the King's service. In it house rent, rations, travelling charges, tentage, horse allowance, compassionate allowance, and distinct servants allowance on foreign stations preclude the necessity, as exists in this country, of incurring heavy and overwhelming debts. The King's medical officer receives pay the moment he his gazetted in London, and is not compelled as he is in the Hon'ble Company's service to defray the expense of his own passage to India; where the Company's medical officer receives pay only from the date of the report of his arrival and not from the date of his appointment at the India house.

There is no difference of pay between the youngest and oldest assistant surgeons, nor between the oldest and youngest surgeons in the Hon'ble Company'sservice, but inH. M.'s service the scale is by far more equitable, each grade being paid according to length of service.

As regards pensions, the same rules exist in the King's, but the reverse is the case in the Hon'ble Company's service, in which the scale of pensions is contemptible in comparison with that of the King's. The same disparity exists as regards rank. On the whole we have exhibited a lamentable inferiority of the Hon'ble Company's service when contrasted with that of the King's.

THE EDITOR TO HIS SUBSCRIBERS.

The *India Journal of Medical and Physical Science* has now completed its third year, and although it has been repeatedly threatened with destruction from the quarter from which it was reasonable to expect support it has steadily pursued its course, and it is now, we trust we may say with exultation, firmly and immoveably established. The attainment of this great end is to be ascribed to the liberal spirit of the profession and espe-

cially to the able papers our Journal contains from our zealous and talented contributors.

It will be gratifying to them to learn that their communications are highly prized in Europe, if we may judge from the circumtance that many of them have been transferred to the pages of the leading journals there and in America.

We have received the most gratifying letters regarding the success of our Journal from our contemporaries in Europe and America, for which we take this opportunity of returning our grateful acknowledgements. One letter from Sir James MacGregor, Director General of the Medical Department of H. M's. army has afforded us particular pleasure. India was the early scene of his professional fame, and he informs us that he has read our pages with exceeding interest: he has expressed a hope that we receive support from medical men in the King's service: we allude to the circumstance because he will find that among our numerous talented contributors many are attached to H. M's. regiments.

In conclusion, our brethren will perceive, that we have laboured to develope the depressed condition as regards pay, rank, and promotion of medical men in the H. C's. Service. We beg now to state that it is our intention to forward copies of this volume to the chairman and deputy chairman of the H. Court of Directors, as well as to the President of the Board of Control, with an earnest request that they will give to these articles that consideration which the subject merits, and be pleased to adopt such measures as will meliorate the condition of our brethren. We have only to add, that our exertions, if our health and life be spared, shall be continued unabated in their cause and in the cause of science and humanity.

REVIEW

AND

SELECTIONS FROM BRITISH, FRENCH GERMAN, ITALIAN, DANISH AND AMERICAN JOURNALS.

So numerous are the Journals which we daily receive that we find ourselves compelled to alter the arrangement of this department by reviewing periodicals, specifying their contents, and extracting such matter only from each which are important and novel. In future by this arrangement our readers will be put in possession of all that is going on in other parts of the world: they will obtain the essence of every work worthy of notice. This plan becomes the more necessary, since our review department will be considerably increased. No less than four works have been sent to us for Review by the last arrivals from Europe, this is doubtless owing to that liberality and encouragement which we anticipated from our enlightened contemporaries of the Medico Chirug. and British and foreign Reviews.

We now proceed to review the American Journals. The Boston Medical and Surgical Journal for 1835 contains much valuable information.

CASES IN PATHOLOGICAL ANATOMY.

BY LUTHER V. BELL, M D. DERRY, N.H.

I was first called to advise in his case on account of an obstruction in the urethra just posterior to the scrotum, made by some foreign substance, which he, probably having in mind the former exfoliations from the hip, from its irregular and pointed surface was inclined to think was bone. It had first been noticed about three weeks previous, by the partial obstruction of the urine, and it had immediately been followed by some kind of convulsive affection, which had nearly proved fatal. On

removing the substance, which was easily effected by the urethra forceps, it proved to be a calculus of an irregular, rectilinear figure, with several long and pointed projections. No amelioration of his general symptoms resulted. A month or two afterwards, a second stone descended into the bulb of the urethra, so as entirely to close the urinary canal. With considerable difficulty, owing to its size, ovoid figure and smooth surface, this was removed by the same instrument.*

Its smallest circumference proved to be one and a half inches. All the usual palliative means were employed to render his existence as tolerable as possible, but the unfortunate sufferer was eventually worn out by the irritation and discharge of pus. The lateral operation of lithotomy was impracticable in his case, on account of the pelvic distortion, had the other circumstances of the case been such as to have warranted the attempt.

On examination, eighteen hours post mortem, the region of the abdomen just above the pubes was noticed to have a blueish and shining surface slightly elevated; a slight touch of the scalpel, intended to pass through the skin only, cut into the bladder, from which a pint or more of purulent matter was discharged. On further examination, the whole of that viscus was found in a state of morbid alteration; adhesions formed in every direction to the neighbouring parts; its membranous appearance wholly lost, and its muscular structure developed in palpable fleshy masses. A stone presented itself, which was embraced by the fundus of the bladder which had, it was judged, become retro-verted in such manner that a small portion, forming a kind of curved horn by which it was suspended, only was presented within the usual cavity, against which the end of the sound only could have impinged. On removal, the calculus was found of the size of a hen's egg, and of the triple phosphate composition. The two portions which had escaped into the urethra had evidently been separated from the horn-like process or extremity, which was not, like the body of the stone, embraced by the bladder, or, as it were, sacculated.

Two circumstances of interest present themselves in this case; 1, the mode in which so large a calculus formation had been so completely masked, as to frustrate all endeavors to reach it with the sound; and 2, the probability that had his life been maintained a few days longer, a natural supro-pubic operation of lithotomy would have been effected by ulceration.

DEATH FROM OBESITY.—Mrs. P—, wife of Moses C. P—, Esq. aged about 50, died in Dec. 1834. She had long been encumbered with extraordinary obesity. Some six months before her death, the bulk of her abdomen seemed to sink down, leaving her from one to two feet less in circumference about the waist, than she had been; and extending considerably beyond her knees when sitting. This subsidence gave the impression as if an universal ventral hernia had occurred. She began to fail with few and anomalous symptoms, rather resembling peritoneal inflammation than anything else; but doubtless produced by the tension of the enormous bulk and consequent irritation. Towards the last days of her life, symptoms of an apoplectic character supervened: not, however, till her health was entirely destroyed from the other causes. On examination, no traces of disease within the abdomen were discovered; which was the only cavity examined, and that but imperfectly, on account of the unmanageable unwieldiness of the corpse. Her weight at the time of death was not less than 350 pounds; in person, she was not above the middle height, and of a slight frame.

The next paper is on—

MEDICAL AND CHARITABLE INSTITUTIONS OF ITALY.

FROM A LETTER TO A GENTLEMAN IN THIS CITY.

The author who visited its hospitals and alms houses speaks highly of those institutions. The entrance, neatness, and internal police distinguishes its *albergo di Poveri* which is of immense extent containing about 3,000 poor. The General Hospital is also of great extent. The hospital for incurables presents a

* Perhaps the instrument by which this is so conveniently effected, may be advantageously described to such as have not seen this form of urethra forceps, as I think, with slight modification, it may be of considerable utility for other purposes in surgical practice, such as the removal of foreign substances from the œsophagus, or, in short, whenever strong forceps are required in deep cavities. It consists simply of a straight silver cannula ten or twelve inches long, through which a wire of steel is passed, which is split at its extremity into two branches, each terminating in half a sphere, so that when closed, a round end is formed for easy introduction. These branches are sprung apart by their own elasticity, and are closed when they are drawn within the canula. When introduced closed, within the urethra, they detect a calculus with the certainty of a steel sound; if the canula is then drawn back an inch or two, the branches open and the stone is insinuated between them. The canula being then shoved down, the forceps are closed. I find this simple instrument described in the surgical works of Gooch, published nearly a century since.

While on this subject, I am reminded of a mode of overcoming the inconvenience arising from the holes of the catheter becoming plugged up by coagulated blood, &c. in cases of retention of urine. I have resorted to it repeatedly in cases of diseased prostate, where from the necessarily slow introduction of the catheter, its eyes become obstructed. It consists in winding half an inch of the catheter wire with a thread in such manner that, when oiled, it may exactly fill the calibre of the instrument. When the catheter is in the bladder, let the wire be withdrawn, and the water will follow on the obvious principle of suction. To some practitioners this simple device may be new, and if so, is well worth having been communicated.

shocking sight. There are 500 patients beyond the reach of Italian skill. The best hospital is at Parma, the residence of the widow of Bonaparte: it contained 300 patients; neatness and system were remarkable throughout.

So far as I am able to judge, I do not think that the Italians have any just claim for very great merit, either in medicine or surgery. I have been in two or three sick chambers when the doctor has been called, and in every case I have heard him, after feeling the pulse, ask the patient whether he was tranquil in his mind; if lately he had been excited by any particular event; whether he had been disappointed, &c. &c. and having asked the patient, he would try to learn something from his friends, as to the appearance of the patient of late, whether he had shown signs of agitation, or of not being at his ease—and I have always remarked, that the first remedy was to send to the surgeon to bleed. The blood is kept for some time; the doctor examines it, and gives further orders. Medicine and surgery are entirely divided. After riding several days on horseback, in the months of June and July, the heat of the sun was too powerful; I thought I had symptoms of the same disease that I had in London, erysipelas. I was somewhat frightened, and had a doctor; he asked me many questions relative to the state of mind, &c.; I told him I was perfectly tranquil, that I considered I had a fever, owing to exposure to the sun, or, in other words, that I was sun struck. He ordered me to be bled in the arm, and in the foot, then to have something done on the neck. I told him I never was bled in my life, and did not mean to be if I could help it, and I would not follow his orders. He told me I was a self-willed Englishman, and left me. I am inclined to think that surgery, I mean that part that relates to amputation, or to the doing of it in an expeditious, *tender* manner, is far below the surgery of England, France and the United States. The fees of Italian physicians, especially in Genoa, are very low, three livres, 47 cents. a visit. Medicine is rather dear. There are some families here, who pay 100 fs., drs. 19, for the services of a doctor when needed, for a year. In most of the towns where there is any chance of English society, an English doctor is to be found. In Rome, for example, there is one, who has made a fortune. He charges London prices. Also in Naples and Florence, but, as more doctors come, the charges must be less. The apothecary shops are little exchanges, always full of physicians and surgeons, who amuse themselves by conversation, a game of chess, or checkers—each one has his nail, on which to attach an order, if he be absent, or in case of need, the apothecary will be sure to find him. Certain shops are frequented by certain doctors, and it is there they are to be found. The doctors dress in black. When they are called to a house, they continue to come till they are paid, so that when a person does not want another visit, he has nothing to do but to calculate each visit he has had, give the amount to the doctor as he leaves the room, and he will not come until he is called. I believe, but I do not know, that the surgeon is considered inferior to the physician; but, from everybody here believing that bleeding is good, though the charge for each may be very small, the number may make his office a lucrative one.

The next paper is of interest being.

CASE OF FRACTURE OF THE INFERIOR MAXILLARY BONE.

The patient, 30 years of age, who having experienced a serious injury is visited by the surgeon, Mr. Gillespie, of Lovica County.

I arrived about midnight at the house to which he had been carried after receiving the injury. I found him in apparent stupor, from which it was difficult to rouse him, owing, probably, in part, to an excess of alcoholic stimulation to which he was accustomed. I learned from his attendants that he had attempted, on his way home from the county seat, on a public day, to ride a race, and in passing a large tree, as he himself afterwards informed me, the horse attempted to go on one side whilst he attempted to guide him to the other; his head, jaw, and shoulder struck the tree, which precipitated him to the earth; his lower jaw-bone was fractured, and the face and cheek very much contused. He was bled by a dentist who happened to be on the spot, who, like many others, felt convinced that bloodletting was the only and proper remedy for a fall. When I first saw him, several hours after this, his countenance wore a horrid aspect: his face was deadly pale, althongh bruised and swollen, and his pulse scarcely perceptible. On examination, I found his lower jaw bone completely separated, about the situation of the right *dens cuspedatus*; the fragments had over-lapped each other nearly one inch, and the tooth which had occupied the place of the fracture was slightly adhering to one of the fractured ends of the bone. I readily and easily adjusted the bone to its proper place, and having passed a small silver wire between some of the teeth on each side of the fracture, I tied or united it firmly over the fracture. The only remaining indication was to use further means to prevent motion of the parts, and to allow his taking food at the same time. I cut a piece of thick sole leather, and so adjusted it between the teeth of both sides of the jaw as to leave a small opening for drinks or food of liquid kind. A bandage was now passed around the crown of the head and jaw, and another around the chin and *sinciput*, so that the jaw was firmly bound in its place, admitting of no considerable motion. A spare, cooling regimen, with salts and magnesia as a purgative, were enjoined, with quiet, &c. For several days his pulse was nearly imperceptible, but gradu-

ally recovered its natural fulness and tone. *Quere.*—Was this owing to improper bloodletting, or to a concussion of the encephalon? Nothing remarkable occurred; but progressive amendment soon made it manifest that he was again sound and whole. The tooth which was loosened in the fracture grew fast in its original place, and there was no perceptible deformity left. These remarks may be thought by some as common-place and of no interest;— they are facts, and may possibly be of use to junior members of the profession, as I once heard of a similar case, not far from me, which was managed with extreme difficulty, in keeping the ends of the bone in co-aptation.

The next article, to which we beg to draw attention, is a work recently published by P. C H. Louis, Physician of the Hospital la Pitié; we had marked it for our last number from the Foreign Review, but we quote it from the Boston Journal with a view of appending to it the valuable remarks of Dr. Jackson. This article is entitled

RESEARCHES ON THE EFFECTS OF BLOODLETTING.*

To this well-executed translation of the Memoir of M. Louis, Dr. James Jackson has added a Preface, giving some account of the author and the course of his labors, and an Appendix, nearly as large as the main work, containing an analysis of thirty-four cases of pneumonia treated at the Mass. General Hospital. Tables are given, by means of which the effects of treatment in these cases may be compared with the results of M. Louis' observation.

In November, 1828, M. Louis published in the *Archives Générale de Médecine* a Memoir on the effects of bloodletting, principally with a view of exciting the attention of other physicians to the subject, which he was far from considering as settled by his own investigations. The book before us consists of a re-publication of that Memoir, with additional cases, tables, and remarks. In the first series there are given 75 cases of pneumonia, 28 of which proved fatal. In all these cases, with four exceptions, bleeding was practised more than once, and in some cases three or four times; the amount of blood drawn at each venesection, however, was from 10 to 15 ounces only. This, though in accordance with French usage, until a very late date, is so unlike our practice, that no inference as to the efficacy of the latter can be drawn from its results.

"Of the fifty successful cases, three were bled on the first day of the disease, three on the second, six on the third, eleven on the fourth, six on the fifth, five on the sixth, six on the seventh, as many on the eighth, four on the ninth; and the mean duration of the disease was, in the order pointed out, 12, 10, 20, 20, 22, 21, 19, 17 and 23 days."

"That is to say, if it were possible to establish a general proposition from so small a number of facts, it must be concluded that the antiphlogistic treatment, commenced the two first days of a pneumonitis, may very much abridge its duration; whilst after these two days it would make but little difference whether it was commenced a little sooner or a little later."

But M. Louis thinks—and he refers to his tables for proof—that had the number of cases bled on the two first days been greater, their average duration would also have been greater, and that we should more correctly estimate the utility of bloodletting, by taking, on the one hand, the cases bled within the four first days, and comparing them with those bled subsequently. The justice of this position of the author appears somewhat questionable; but we wish simply to state results, as he states them, and in this way he gives us, for the mean duration of pneumonia, 17 days in the first set of cases, and 20 in the second. In no instance was the disease *cut short* by bloodletting, as some have supposed was possible. The only treatment beside bloodletting, in the foregoing cases, was vesication. To this remedy, the author attributes but slight efficacy. His reasons are stated in connection with the second series of cases.

Out of the 28 fatal cases, 18 were bled within the four first days of the disease, and 10 later. We have, then, 41 patients, in all, bled within the four first days, three sevenths of whom died; and 36 bled at a later period, of whom 9, or one fourth only, died. An "appalling result," to be sure, which M. Louis thinks in part explicable by the greater age of those bled during the first period. It proves, we think, that the whole number of cases tabulated is too small for any of the results to be regarded as laws.

The effects of bloodletting on the particular symptoms of pneumonia, viz. the *pain*, the *adhesive, crusty, semi-transparent sputa*, the *crepitation, bronchial respiration*, and *dulness on percussion* over the affected part, the *acceleration of the pulse, heat* and *sweating*, were carefully noted by M. Louis. The results are not more satisfactory than those which regard the duration of the disease. In no instance were these at once removed by venesection.

"Thus, the study of the general and local symptoms, the mortality and variations in the mean duration of the pneumonitis, according to the period at which bloodletting was instituted; all establish narrow limits to the utility of this mode of treatment. Should we obtain more important results, if, as is practised in England, the first bleeding were carried to syncope?"

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* Researches on the Effects of Bloodletting in some Inflammatory Diseases, and on the Influence of Tartarized Antimony and Vesication in Pneumonitis. By P. Ch. A Louis, Physician of the Hospital la Pitié, &c. &c. Translated by C. G. Putnam, M. D.; with preface and Appendix by James Jackson, M. D. Physician of the Mass. General Hospital. Boston.—Hilliard, Gray & Co.

In the second series of cases observed at la Pitié, the author says he employed bloodletting to the extent of 20 or 25 ounces or more, or even to syncope, with being decidedly more successful. His table, however, if we rightly understand it, does not show that bleeding to this extent was practised on either of the two first days, unless in one instance, though it may have been barely done on the third and fourth days. As it respects mortality, the difference between the two series is remarkable. Out of 29 cases of pneumonia, 4 only were fatal. Dividing the 25 successful cases into two classes, as they were bled before the fifth day and afterward, we have for the mean duration of the disease, in the first set, 15 days and a half, and in the second 18 days and a quarter, showing a more marked influence from bloodletting than was observed in the former cases.

To explain the remarkable difference in the mortality between the two series of cases, the ratio being 1 to 2, 79 in the first, and 1 to 7, 25 in the second, we learn that in the latter, vesication was wholly omitted, and that beside losing a larger quantity of blood, 17 of the patients who recovered took antimony in large doses, that is to say, from 4 to 12 grains a day during four to seven days. The details given by M. Louis leave no room for doubt as to the favorable influence of the antimony, and it will probably be readily admitted that neither the antimony nor vesication was employed except in severe cases. The mean duration of the 17 cases in which the former was given was 15 days, that of the 25 cases at la Charité in which blisters were used, was 22 days. From this difference, the age being in favor of the patients vesicated, our author infers that vesication is of little or no value. He says—

"I have not only rejected vesication from the treatment of pneumonitis, I have also ceased to employ it in pleurisy and pericarditis. I have treated, within five years, about one hundred and forty cases of pleurisy at la Pitié (I include here only those who were in perfect health at the time they were attacked), without having had recourse to vesication in a single instance; and they all recovered. I have had the same success in more than thirty cases of pericarditis occurring in individuals healthy up to the period of attack. It must be admitted that these facts render the utility of vesication in acute diseases of the chest still more problematical.

"I was induced to reject vesication from the treatment of acute thoracic inflammations, because, as I have before said, an attentive study and rigorous analysis of facts forced me to acknowledge that acute inflammatory affections, far from preserving from inflammation, organs which are not the primitive seat of disease, are in truth an exciting cause of inflammation; insomuch that the more severe the primitive inflammatory affection, and the more considerable the accompanying fever, the more are the secondary inflammations to be dreaded. And how, then, can we believe that the effect of a blister is to check an inflammation, when this blister is one inflammation superadded to another?"

M. Louis may be correct in his estimation of the utility of vesication, but it is purely a question of fact, and although he acknowledges the reasoning in the paragraph last quoted to be not strictly rigorous, yet he does evidently allow more weight to it than it seems to us to deserve. Does he not, in fact, beg the very question at issue?

The final results of the investigations we have been reviewing, are— 1st. That bloodletting shortens the duration of pneumonia. Though less than has usually been supposed 2d. That pneumonia is never arrested at one bloodletting in its early stages. "If an opposite opinion is maintained, it is because this disease has been confounded with another; or because, in some rare cases, the general symptoms rapidly diminish after the first by bloodletting. But then the local symptoms, crepitation, &c. for the most part, continue to be developed not the less for this evacuation." 3d. That in severe cases, antimony, in large doses, has a favorable influence on the disease. 4th. That in acute thoracic disease, vesication may be dispensed with.

The author gives, in separate articles, the results of his observation in 33 cases of erysipelas of the face, 21 of which were bled and lasted 7 1-4 days on the average, 8 being the mean duration of the 12 not bled; also of 11 other cases of the same disease observed at la Pitié, 6 of which had no evacuation, sanguineous or other, and lasted 8 1-4 days, while in those who were bled the mean was 10 1-2. The disease in those not bled was very mild, less so in the others.

Of 35 cases of angina tonsillaris, 23 only were of any violence. 13 of these were bled, and their average length was 9 days; that of the others, 10 1-4 days.

Whatever may be the results of future investigations, as to the influence of large and early bleedings in pneumonia, we believe M. Louis's conclusions against its efficiency in erysipelas and angina will not be found far from the truth.

DR. JACKSON'S APPENDIX TO LOUIS ON BLOODLETTING.

This appendix opens as follows:—"The results attained by the foregoing inquiry, will, no doubt, surprise many, if not most, medical men. They certainly do not accord with my own previous impressions in various respects. I had believed, for instance, that bloodletting after the third or fourth day in pneumonitis was not often useful, and that sometimes it was injurious; but that on the first, second and third, and perhaps on the fourth, it both mitigated the disease and shortened it. It was my practise to bleed freely in the first instance; at least more freely than was done at the hospital La Charité, where the observations given in the first chapter of this work were made. Accordingly, when I saw those observations three years ago, published, as they then were, separately, it appeared to me very certain that a more copious bleeding

on the early days would have given different results. After reading this work, where the second chapter shows that very little, if any thing, more was gained by a copious bleeding in the first instance, my faith was shaken; though I still thought some exceptions might be taken to the conclusions at which M. Louis had arrived. Particularly it did not appear that he had had many opportunities to order these bleedings in the three first days of the disease. But, instead of urging objections to his conclusions, it seemed best that I should inquire accurately how far the facts within my own reach would confirm or contradict them. On this account I determined to examine the case-book of the Massachusetts General Hospital. It is the object of this appendix to give the results of that examination."

An analysis is accordingly given of all the cases of pneumonitis, contained in these books, which are not objectionable either on account of the deficiency of the records in some important details, or of the state of the patients' health previous to the attack. In M. Louis's cases, it will be remembered, the patients were in perfect health at the time when the first symptoms of the disease appeared.

Fatal cases are altogether omitted, for what reason is not stated. The number analyzed is thus only 34. Of the history and treatment of these, a full tabular view is given, showing of course, in each case, on what day of the disease venesection was first practised, the number of bleedings, and the quantity of blood drawn at each time.

Twenty-nine of the cases were bled, and in these the average period of convalescence was 13.03 days. The corresponding period in the five cases not bled, was 14.6 days. Four cases were bled on the first day, all to faintness, or else to the amount of 20 or 30 ounces. Their mean duration was eleven days, showing a gain of nearly one quarter upon the cases in which bleeding was omitted. In the latter class of cases, moreover, the disease was on the average much less severe than in the former. In one of the cases bled on the first day, 12 ounces being taken, and the patient then becoming faint, convalescence took place on the fourth day. This speedy amendment Dr. Jackson thinks may render the case objectionable. But in an inquiry like the present, that alone is obviously no reason for so regarding it. The case is given in detail, that each reader may form his own opinion of it. Its character seems to us as well marked as that of any mild case can be without the aid of auscultation or percussion. The physical signs, if noted at the time, and they probably were so, are not given in the record. Indeed these are not reported in any cases, although noted in nearly all. With unnecessary distrust in his own skill it appears to us, Dr. J. is unwilling to place reliance on any notes made previous to the last two or three years.

The gain was not much less, if venesection was performed only as late as the second day. Indeed our own examination of the tables has given us one result not stated by the author. Of the thirteen cases bled before the third day, ten were bled to faintness, or to 20 or 30 ounces, and their mean duration was 10.9 days. Whence it would appear less important in which of the first two days bloodletting is practised, than that the quantity taken should be large, producing syncope. In all probability, however, a greater number of cases bled on the first day, would furnish a different result.

If bloodletting was deferred until after the second day and not beyond the ninth, the mean duration of the disease did not vary much, on whichever day it was first practised. This mean was nearly 13 days. Two cases are given, admitted to the hospital after the thirteenth day, and bled one on the fourteenth and the other on the nineteenth day, in which convalescence was delayed until the twenty-fifth. These cases may perhaps with propriety be omitted from the general calculations.

Including these, however, the mean duration of all the 34 cases was 13.26 days. That of Louis's first set of cases was 19 days, and of his second set, 17. This great difference Dr. J. is disposed to attribute less to the treatment, than to the greater warmth of our wards, and the general superiority of the accommodations of our hospital, over those of the French.

The controlling influence of these causes will not be doubted, when we learn the interesting fact that in general, the earlier, in the disease the patients entered the house, the earlier did convalescence take place. Thus of 20 cases which entered from the first to the fourth day inclusive, the average period of convalescence was 11.5 days; that of 12 cases entered from the fifth to the ninth, inclusive, 14.75 days; and that of two which entered, one on the fourteenth and one on the fifteenth day, 25 days. These facts seem to show that even early bloodletting was a condition of less influence on the duration of pneumonia, than the patients' entering the hospital at an early period of the disease. A curious result, that scarce any would have anticipated.

No marked influence appears to have been exerted, by either age or sex, in Dr. Jackson's cases. With regard to age, the result does not agree with that of M. Louis's tables. In 18 cases the right lung alone was affected, in 12 the left, in 4 both.

Vesication was employed in 22 cases, and in these the mean duration was rather greater than in those wherein it was omitted. This Dr. Jackson attributes to the greater severity of the disease in the former cases, rather than to any unfavourable influence of the blisters, such as Mr. Louis supposes in his cases.

Upon the particular symptoms of pneumonia, these tables show bleeding to have had a more marked influence than appears in those of Louis. The changes in these symptoms are not so fully noted as they are by the French writer. Dr. Jackson thinks, however, "that the relief to some of the most peculiar symptoms of pneumonitis following bloodletting was unequivocal; and that it was probably much greater than we should be induced to suppose by attending only to the shortening of the disease by the same remedy."

In all the cases either calomel, antimony, or colchicum, were given internally. But there is nothing in the tables to decide which of them should have the preference as an adjunct to bleeding. Dr. J. thinks, however, that in the present state of our knowledge, he should not feel justified in omitting them altogether in the treatment of pneumonia.

At the close of the appendix is given the ratio of mortality in all the cases of pneumonia not manifestly secondary, that occurred at the Mass. Gen. Hospital, during the four years ending Dec. 3, 1835. In this period, 51 cases presented themselves, 8 of which were fatal; or 1 in 6.34 nearly. In 7 of these autopsies were made, and in every case but one both lungs were found to have undergone inflammation. In this case, the details of which are given, there were during life physical signs of disease on both sides, that on the left having been removed under treatment. In the case where autopsy was forbidden, there existed during life manifest signs of pericarditis. From these facts we are led to this important pathological conclusion, viz. "that simple pneumonitis of one side, in adults, is very rarely, if ever, fatal among us."

We have seen that observations of one of our most experienced physicians go to confirm those of M. Louis. They show that pneumonitis is never or almost never *cut short* in its commencement by bloodletting; that nevertheless this agent has a beneficial influence on the disease, mitigating its severity and lessening its duration; and that this relief is very considerable, where a large quantity of blood is taken at once within 48 hours of the attack. May not *hours* be of more importance in the disease than has been heretofore imagined; and might not the relief afforded by bleeding within 12 *or even* 6 *hours* from the attack, instead of after 18 or 36 hours have elapsed, be greater than the simple inverse ratio of the numbers would lead us to expect?

In conclusion, it may be said that although no very satisfactory practical results are attained in the essays we have examined, their publication cannot fail to draw the attention of physicians to the subject of the inquiry, and to show them in what way that inquiry should be pursued. If from what is therein laid before them, their confidence in one of their most valued remedial agents is shaken, let them remember, that in a science, whose votaries are sincere and intelligent, the full and fair statement of the doubts which attach to any rule, received on insufficient evidence, may be but instrumental in leading to its complete and final establishment.

We trust the inquiry will be pursued as we have here seen it begun. Every assiduous physician can do something to aid it, if he will but observe carefully, and record faithfully, seeking only the truth, which he should never fear to know nor hesitate to acknowledge.

The thanks of the profession are due to Dr. Jackson and Dr. Putnam for their valuable addition to our medical literature.

The following article shews that animal magnetism is exceedingly popular in America: the remarks are the editor's; he appends one of M. Poyen's lectures: but as we have already given the subject fully in our pages and there being nothing new in the lecture we shall not quote it.

ANIMAL MAGNETISM.

On Friday evening last, we attended, by invitation, a lecture on this unfathomable science, by M. Poyen, a physician of the medical faculty of Paris. It was his object, particularly, on that occasion, to detail the circumstances to be attended to on the part of the operator as well as patient. Though M. Poyen has been in this country but a comparatively short time, he articulates the English language agreeably, and gave abundant evidence of a familiar acquaintance with the history and effects of animal magnetism. Some of the cases recited were of a most extraordinary character, particularly such as related to the transmutation of fluids. That he is a scholar, and a well-educated physician, seems to be substantiated by gentlemen of the first respectability. As we may hereafter publish in the Journal the most interesting part of the lecture here alluded to, it is unnecessary to anticipate the spirit of it in these remarks. After the audience had retired, with the exception of two or three physicians, and some other gentlemen who happened to be in conversation with each other, it was announced that Mr. Nichols, editor of the Standard, then present, possessed the magnetic power. After some persuasion, a young man seated himself for the experiment. Though the process had scarcely commenced, he raised himself, and made objections against its completion, on account of a drowsiness coming on. He afterwards resumed the seat, however, and finally, to all intents and purposes, had the appearance of being in a quiet slumber? On questioning him, he said that though exceedingly drowsy, he was not wholly unconscious of external impressions.

With reference to testing the truth of an observation, that a person might be raised, in a recumbent posture, from the floor on the tip of the fore fingers of four men, if they first inflated the lungs and then expired the air all at the same moment, Mr. Nichols took the prescribed position, and to the astonishment of all present, he was lifted with the utmost ease, several times, breast high. There could be no mistake or necromancy in the business. We assisted twice—and certainly recognized nothing like the sensation produced by a heavy weight. Drs. C. T. Jackson and J. D. Fisher, equally curious and critical in their observation on the phenomena of animal magnetism, also assisted, and freely confessed that they were not sensible of sustaining any considerable burden. Mr. Nichols weighs one hundred and sixty pounds. Verily this is an age of wonders! Though we by no

means intend to allow the organ of marvellousness to get the ascendancy, yet we really begin to expect a revivification of Bishop Berkley's notion, that terrestrial existence is only ideal.

The following remarks on the TREATMENT OF PHTHISIS PULMONALIS, BY Dr. S. G. MORTON, are worthy of notice.

When I meet with a case of phthisis that is just developing itself, when the disease is confined to one lung and is circumscribed in extent, and the patient's general health not yet impaired, I pursue the following plan. I at once establish an issue of caustic potash over the diseased part, and keep it discharging by means of basilicon, savin, and mezereon, and by washing it with soap and water. The cough should be controlled through the day by demulcent and acidulated drinks; but at bed-time, if it continue troublesome, I direct as much anodyne as will secure the patient a night's rest. In this manner the cough will be chiefly confined to the early part of the day, when the patient is best able to bear it. If there be febricula, with a frequent pulse, I am partial to the use of digitalis, which sometimes has a most happy effect in reducing the wearing excitement of the blood-vessels. To this simple treatment I add the internal use of the preparations of iodine,—the most powerful alterative, with the exception of mercury, with which we are acquainted. I give them for about a week at a time, then omit them for a like period, and thus alternately discontinue and resume them. The patient's diet should be light but nutritious, using freely of the farinaceous articles, and avoiding every indigestible article of food. Conjoined with these means I direct daily free exercise in the open air, by walking, riding or driving, and by protracted journeys, when these can be resorted to without undue fatigue or exposure. As an interlude I am extremely partial to a sea voyage, particularly when it can be directed to a mild and equable climate. It is by a persistence in this plan of treatment, that I have now the satisfaction of seeing a considerable number of patients pursuing their daily avocations, and enjoying a good degree of general health, whom I am confident never would have survived, for three months, the old practice of close confinement, low diet, antiphlogistics and mercurials. I do not pretend that in all such cases the tubercular disease is eradicated, or the abscesses cicatrized; but I know that the malady may be kept at bay, and rendered comparatively inert, until at length it ceases to molest the patient.

The obliteration of abscesses by cicatrices is a very common occurrence; but most unfortunately these cavities are seldom single or isolated, but on the contrary succeed each other at uncertain intervals, and thus keep up an exhausting drain on the constitution.

But the existence of abscess does not prevent my pursuing the practice above mentioned, provided the general strength of the patient continues in a reasonable degree unimpaired. Abscesses may continue for years, occasioning no pain, and little inconvenience beyond debility, more or less cough, and occasional febricula. Such instances, however, are exceptions to a rule; for where suppuration has taken place, we have little to hope for.

INFLAMMATION OF THE LUNGS had been prevalent at West Ranney, especially among children. Dr. J. Hall, in a letter dated so late as April 1836 observes that—

My treatment is this. When first called, if the symptoms are urgent, as is sometimes the case, I invariably give an emetic of ipecac. After vomiting has abated, I open the bowels freely with calomel - give powders of ipecac and soda, together with an infusion of ipecac. This infusion is given so as to produce vomiting, if it is necessary, as often as every day—or Dover's powder may be given with advantage, if the patient is restless. As a local application to the chest, I order roasted onions, which I consider the best application that I can use. This application is to be changed as often as necessary.

This constitutes the whole of my treatment in this disease; and out of thirty or forty cases, I have not lost *one*.

A curious CASE OF INTROSUSCEPTION, IN WHICH AN OPERATION WAS SUCCESSFULLY RESORTED TO by Dr. J. R. Wilson will be read with interest.

The subject of the operation was a negro man, aged about twenty years, the property of Mr. Charles Dement. The patient had labored for seventeen days under bilious colic, and stercoraceous vomiting, and the other more alarming symptoms of this disease, had appeared. All the active purgatives were administered in vain, and, on the evening before the operation was resolved upon, as a dernier resort, some ounces of crude mercury were given. The constipation remaining, with the other formidable appearances, it was plain that nothing but the knife could save the patient.

The operation was performed in the following manner. An incision was made along the linea alba, commencing above the umbilicus and extending two or three inches below it, being in all about five inches in extent. The bowels being protruded through the wound, that portion involved in the stricture came into view. It was found to be in the *ileum*. The bowel was grasped above and below the point of obstruction, and after several efforts of considerable force, the adhesion gave way. The exertion necessary to break up the attachments, it was feared, might lacerate the intestine; but no such accident followed. The bowel strangulated was of a dark livid appearance, evidently approaching

to gangrene, and of double its ordinary size. The vessels of the omentum were also deeply engorged with black blood, apparently stagnant. The parts seemed to be on the verge of mortification. After returning the intestines into the abdomen, having carefully excluded the atmosphere during the operation by a warm, moist cloth spread over the viscera, the wound was made secure by a few stitches with the needle, and adhesive strips. The patient was put to bed, and in a very short time voided the mercury which he took the evening before. His recovery was rapid and entire.

The success of this case, in which the operation was so long deferred, and at last performed under such unfavorable circumstances, warrants the propriety of resorting to it in the disease, and proves that relief may occasionally be afforded by this means, when all others have failed.

The foregoing extracts are from the Boston Medical and Surgical Journal up to July 1836. The June number contains several papers from our Journal. Among these we notice Dr. Davidson's, Fuller's, Stuart's of Baroda, Dr. Green's, &c.

The American Journal of the Medical Sciences, contains several valuable papers. Among these is Dr. Kennedy's

OBSERVATIONS ON THE USE OF TARTAR EMETIC IN OBSTETRIC PRACTICE.

He alludes to labour from rigidity of the os uteri and vagina.

Some patients continue for many hours in the first stage of labour, with partial dilatation of the os uteri and external parts, in whom there may be no want of what are significantly termed grinding pains, a state more frequently met with in first pregnancies and those who marry late in life. This state is to be carefully distinguished from false labour, which it much resembles, by the partial dilatation of the os uteri, protrusion of the membranes, and presence of glairy discharge. It may continue for some hours, rendering the labour more tedious than it would otherwise have been, the parts eventually becoming relaxed, and the labour terminating favourably; it may continue for many hours, exciting our dread as to the result of the case; or, in its more obstinate forms, it may persist so long as to wear out the mother's strength in unavailing efforts to overcome the difficulty it opposes to delivery, the mother, child, or both, perhaps, falling a sacrifice. The difficulties to encounter here, are premature, too forcible or irregular uterine action, propelling the child against the os uetri before it is sufficiently dilated or dilatable, and absolute rigidity of the parts. It should be constantly borne in mind that the first inconvenience is a very frequent cause of the second. With this view of the subject, then, the two objects to be held in view, are, mitigating too early, violent, or irregular uterine action when this the cause of delay, and producing relaxation when rigidity is present. Of the efficacy of tartar emetic in producing the first effect, we shall presently treat, when on the subject of violent labour; for the present let us inquire into its utility in the second. In tedious labour, from rigidity of the uterus, the os is found slightly gaping, with a thickened, tense state of the lips, and usually much heat of the parts. Bleeding from the arm, and on the continent the use of the warm bath have been had recourse to in these cases. Bleeding is attended with marked benefit when there is a full bounding pulse, in a strong plethoric habit: but as a general practice, it is not unattended with inconveniences often of a very serious nature. It certainly procures relaxation of the os uteri, but along with this it causes depression of too permanent a nature, and may thus seriously interfere with the future progress of the labour. Tartar emetic solution has been successfully employed in producing relaxation of the os uteri in these cases, and possesses the advantage of being much less permanently debilitating. It is an agent by which the system can be with safety brought into a much greater degree of temporary depression; between which state and relaxation of the contractile tissues, a marked connexion holds, if they do not absolutely stand in the relation of cause and effect. The principal recommendation, however, to tartar emetic in these cases is, that in its use, the power of regulating the necessary degree of lowering the system, exists completely in the hands of the practitioner, as he has only to increase, or diminish, or suspend the dose, in order to produce the effect he wishes; and, when the necessary effect is produced, the withdrawal of the medicine leaves the vital energies but little impaired. The medicine has been used in the ordinary nauseating doses, as in pneumonia 5 or 6 grains of the tartrate of antimony, dissolved in eight ounces of water, and generally 20 drops of laudanum, and a small quantity of syrup added; one, two or more tablespoonsful of this mixture are given at intervals of from fifteen minutes to two, three, or four hourse, according to the effect it produces, and the necessity that exists for bringing the patient speedily or otherwise under its influence. Sometimes it is necessary to cause free vomiting in the first instance, or the ordinary doses produce no nauseating effect; in such cases the laudanum is better withheld, but may be added afterwards if necessary. In other cases the medicine acts too violently as an emetic or produces purging; here increasing the quantity of the laudanum, and diminishing the dose, or allowing a longer interval to intervene between the doses, will be necessary. The accoucheur must, therefore, watch carefully the effects of the medicine during its administration in every case in which it is employed; these observations applying with equal force to the forms of disease in which its utility has been

proved. Under some of the circumstances described, or where the antimonial in every dose and form disagreed with the patient, small and frequently repeated doses of hippo [ipecac.] have been substituted (three to five grains every hour or second hour,) and with good effect, not only in rigidity of the uterus, but in the other diseases in which tartar emetic was found efficacious. It should be mentioned, that neither tartar emetic nor venesection have been relied upon singly in some cases where it has been nessary to pruduce speedy dilatation of the os uteri, and where the plethoric state of the system described was present. In such, after depletion, the patient was kept for some hours under the influence of the nauseating mixture. One case, in particular, of a most threatening nature, may be mentioned, in which a strong robust woman was brought into hospital with the arm forced into the vagina, through a tense, rigid, and slightly dilated os uteri. She was so treated, and with the best results. There is a somewhat different state of the os uteri, in which it occasionally dilates very tardily also, here the lip of the uterus is thin and stretched over the head of the child, not affording the sensation of heat or rigidity of fibre observed in the case above described. The extract of belladonna appeared of service in a few of these cases, although its general efficacy appeared very questionable. In two cases of rigid os uteri, in which it was freely used, its application was followed by head symptoms and depression of pulse; in one of which even insensibility and stertor were present. It was, however, tried in many other cases, without being followed by these unpleasant effects. The last described state of the os uteri is also occasionally benefitted by the nauseating medicine. It may depend, however, upon other causes, not under our present consideration, nor is it looked upon with the same anxiety by the accoucheur as a cause of tedious labour. In concluding this branch of our subject, let it not be inferred from what has preceded, that tartar emetic will invariably succeed, in procuring dilatation of the os uteri; as it is in some cases found quite unavailing, in others inadmissible. Its efficacy, however, in a great many cases in which it has been used, fully warrant its attracting the attention of the obstetrician, and its success will depend much on a proper selection being made of the cases in which it is available.

Dr. Kennedy has observed the advantages of the use of tartar emetic offered in irritable and violent labour, wherein the patient loses her uterine efforts. This is owing to a constant change of position, a tossing about, exhaustion follows, and instruments are resorted to. Dr. Kennedy had observed the utility of tartar emetic in cases of this kind. He found it procure the double effect of dilating the os uteri and the soft parts, and suspending the irritability and violence. But to produce any good effect it must be freely administered and the patient brought completely under its influence. In puerperal convulsions it is also quite as marked as in the preceding cases; but it is not used to the total exclusion of bleeding: after one copious bleeding the tartar emetic is to be freely used.

OBSTRUCTED AND INFLAMED MAMMÆ.—There are two distinct states of the mammæ, occurring after delivery, which demand our notice. In both, pain and tenderness, tumefaction and hardness, are present; but one is an inflammation, the other merely an obstructed state of the organ; though the latter generally precedes and may produce the former, yet it does not necessarily go in all cases. There is no case within the range of obstetric practice so clearly under the control of the medical attendant, as the tumified, lobulated and obstructed state of the mammæ, and none so sure to terminate unfavourably, if improperly managed. To treat it with effect, it is necessary to look to its cause. The immediate state is a vascular determination to the glandules, together with an accumulation of the lacteal secretion within the ducts and tubes, and often infiltration into the connecting cellular tissue; a state most frequently arising from a disproportionate action between the secretories and excretories. We can easily understand the frequency of the occurrence of this state of the breasts, when we consider how suddenly in most cases determination occurs to them after delivery. Let us, then, bear in mind the function, the grandular part of the organ is so suddenly called upon to assume, and this, perhaps, for the first time: thus rapidly converting the freely determined blood into a nutritive fluid. Let us also call to mind the obstacles afforded to the escape and extraction of the milk in impervious, ill-formed, or diseased nipples, as well as the difficulty that opposes itself to the transmission of milk through ducts, perhaps for the first time; or after a long suspension of their action, called upon to perform the office of conduits for this new and rapidly formed secretion. These considerations tend to explain a fact observed in practice, that, with first children, or after long intervals from child-bearing, more trouble is experienced with the breasts, on delivery. When, in addition to what has preceded, we recollect the varying calibre of the conduits, their ramifications, and the accidental obstacles occurring in them, the effect either of present or previous disease, narrowing them, or perhaps rendering them altogether impervious, and amongst the most common of these, determination to certain parts of the organ, from exposure to cold, we need not wonder at trouble being so frequently caused by the breasts, after delivery, but rather feel astonished that milk abscess is so rare an occurrence. The rationale of the plan of treat-

ment necessary to adopt will appear from what has preceded, to be, simply, checking or preventing too rapid a determination to the breasts, and relieving the ducts and tubes by facilitating the transit and escape of the milk when secreted In effecting the first object, free saline purgation is necessary in the commencement, after which nauseating doses of tartar emetic appear to act almost as a specific in preventing inordinate determination. They also, no doubt, act in producing absorption. Tartar emetic, however, appears to effect the second object as well as the first, by its well-known power of relaxing contractile tissues, thus rendering pervious the lactiferous ducts and tubes, and accomplishing the double object specified.

The next important paper to which we particularly call attention is the

REPORT OF A COMMITTEE OF THE PHILADELPHIA MEDICAL SOCIETY, APPOINTED DECEMBER 27TH, 1835, TO INVESTIGATE THE CHARACTER OF STAGNER'S TRUSS, AND OTHER PROPOSED MEANS OF RADICAL CURE IN HERNIA.

The observations are confined to the mechanical principles upon which the truss is constructed Several varieties of hernia are described for which its employment must necessarily prove either nugatory or positively injurious.

He was met by the announcement, on behalf of Dr. Hood, that the inventor was in possession of other forms of trusses and apparatus, equally applicable to the exceptionable cases mentioned. As these statements, together with the opinions of men of authority quoted on the occasion, and the limited observations of some of the members present, upon the operation of the instrument in the few and very recent cases which had then been treated by this apparatus in Philadelphia, did not form a body of evidence sufficient to confirm the society in any general conclusion upon its claims, the present committee was appointed at the suggestion of one of the members, with the approbation and concurrence of Dr. Hood. The committee was directed, not to confine itself to the consideration of the truss of Stagner, and its modifications, but to enter more at large upon the great question of the radical cure of hernia.

In order to bring the subject matter of this preliminary report properly before the society, it will be arranged in the following order: 1st. The history and description of Stagner's block; 2nd. The reasonings upon the modus operandi of Stagner's block, and the introduction of the modification of Dr. Hood; 3d. The mechanical excellencies and defects of Hood's Inguinal Block, and the other reputed apparatus of the same inventor; 4th. The several modifications claimed by Mr. Chase; 5th. The notes of cases observed by the members of the committee, by Dr. B. H. Coates, and by Dr. Gerhard; 6th. Opinions of the committee on the retentive power of the several apparatus; 7th. Extent of evidence in favour of the chance of radical cure; 8th. Speculations on the causes of the beneficial results of the apparatus; 9th. The question of novelty; and 10th. Conclusions.

1. It appears, by current report, that the block of Stagner originated in an accident. A man engaged in out-door occupations, found that his truss, a common and an old one, did not properly retain the bowel, owing to a defect in the pad. Unwilling, at the moment, to leave his labour, or unable to procure immediately, another truss, he thrust a small piece of would with an irregular surface, beneath the pad. The hernia was then retained, and he wore the apparatus for some time, with no other inconvenience than a soreness of the part. Ultimately, upon removing the instrument, he was surprised to find that the bowel no longer desended. The man is said to be radically cured. The fact being circulated in his neighbourhood, blocks, in imitation of the pad, with its accompanying piece of wood, were applied in other cases, and, it is said, with success. From these attempts resulted the block of Stagner. Its form baffles all attempts at mathemetical description; and graphic illustration or actual inspection is necessary to its full comprehension. (See fig. 1.)

The best idea of its appearance that can be conveyed in words, is this: It resembles considerably the stuffed pad of the common trusses, very much acuminated at the extremity next the spring of the instrument, and strongly compressed on its superior and internal face, so as to render the curvature on this side gentle, while that on the side next the pelvis is rendered very abrupt, and almost rectilineal. The junction of the two surfaces, on the most prominent line of the block, is very rapidly rounded, and almost angular. The whole convex surface is rendered rugose by the intersection of little planes (facets) produced by the knife in carving, which are purposely left prominent.

2. The theory of the action of this block in effecting the radical cure of hernia, (by whom originated, your committee is unable to state,) is this:—An irritation of the skin, and subcutaneous cellular tissue, is produced by the pressure of the hard, unyielding, and rugose block, and is gradually extended to the tendons beneath, as well as to the serous membrane of the sac, which is closed and obliterated at its neck; the whole mass of integument, tendon, cellular tissue, and sac,

being agglutinated by the process of adhesion, in such a manner as to oppose an insuperable barrier against the exit of the intestine. Such is, in few words, a statement of the position taken by Dr. Hood, on the evening of the meeting already mentioned. It differs from that contained in his specification, chiefly in being more detailed. The opinion of your committee on this subject, based upon the facts which will be presently stated, is postponed to the narration of the cases in which the application of the several modifications have been observed. The rugosity of Stagner's block was found to produce an irritation of the skin, more severe and painful than appeared necessary for the creation of the mild inflammation thus hypothetically required for the accomplishment of the radical cure. Hence the contrivance of the modification of Dr. Hood, for Inguinal Hernia.

Your committee have examined this Block with great attention; they can discover no peculiarity in its structure, other than the simple fact that it is rendered smooth. It is the block of Stagner, with its numerous plane faces pared down into uniform convexity. (See fig. 2.)

3. In examining carefully the mechanical principles involved in the common inguinal blocks of Stagner and Hood, these instruments appear to possess one important advantage over the more common forms of the soft pads of the trusses in general use, and they are likewise liable to two equally important objections. The advantage is found in the gradual arch of the abdominal face of the block, which causes it to adapt itself more regularly than the elipsoidal pads, to the peculiar forms of that part of the abdominal parietics in which the inguinal canal is placed, and in the abruptness of the pelvic face, which enables the instrument to approach more nearly to the pubis, without overlapping that bone, and occasioning serious inconvenience to the patient, while, at the same time, efficient pressure is effected at the lower end of the block.

The great objections are these:—1st. The tendency to an elongated semi-fusiform shape, renders the block so extremely prominent at the lower extremity of its shoulder or most prominent line, that the remainder of that line produces no very efficient pressure upon the rout of the inguinal cadal, the principal effect of the instrument being confined to the neighbourhood of the external ring, and the more important point—the internal ring—being left insecurely supported. 2nd. The great elevation of the lower end of most of the blocks, seen by your committee, is calculated, in part, to counteract the advantage of the gentle curvature of the abdominal face, by causing the shoulder of the block to act in a linear manner, the strong compression being confined to a very narrow space, as has been proved by cases under the observation of the committee. This error increases the uncertainty of retention, and it is unnecessary to the production of irritations amply sufficient to fulfil the hypothetical indications pointed out by the inventors—a fact of which your committee have had, in their opinion, sufficient practical evidence. Moreover the same peculiarity of form causes the lower or internal extremity of the shoulder to act upon the external ring, somewhat in the manner of a very small pad, and hence, in ventro-inguinal hernia, there would be strong danger of a consequent dilatation of the ring, and an exacerbation of the disease.

It is probably owing to the last mentioned difficulty that Dr. Hood has been induced to contrive one of the two blocks for ventro inguinal hernia, termed in his specification, the block with a parabolic projection. (See fig. 3.) The best idea of the peculiar form of this block is conveyed by supposing the upper surface of the common soft pad of an ordinary truss, to be compressed until it is made to overhang its base upon the lower or outer side, and also at its lower or inner extremity. This compression widens the lower part of the pad, and diminishes its thickness; thus in part removing the objections urged against the common inguinal block; and it is still occasionally employed by Mr. Chase, with little modification, in cases of ventro-inguinal hernia. (See fig. 4.)

The object of this block, according to the tenor of the specification, is to produce a union between the parts about the margin of the ring and the fascia superficialis. Your committee are not in possession of any evidence at present, which will warrant them in either affirming or denying the possibility of such an effect as a consequence of the action of the instrument.

The Society is presented also with the pad invented by Dr. Hood, for the treatment of Femoral Hernia, both with and without the spring of the truss. (See fig. 5.)

We forbear to detain the Society with a complete analysis of its intended mechanical operation, referring the curious to the certified specification of Dr. Hood's patent, obtained from the Patent Office at Washington, which lies upon the table. Its chief design, however, was to produce a closure of the femoral ring, an effect which, in the opinion of your committee, cannot result from such an instrument, owing to the peculiar relation existing between the edges of Poupart's and Gimbernat's ligaments. Your committee feel compelled to disapprove of this pad, as uncertain in retentive power, and necessarily extremely annoying to the patient.

This ground is taken on plain mechanical principles, and does not appear to require the test of experiment. But if evidence of this character be demanded, it can be given by one of the most ingenious members of the Society, who has actually and faithfully employed it.

In the specification of Dr. Hood, much is said of certain apparatus of a very complex character, in the form of numerous belts, draws, spring belts, compresses, springs, &c. with explanations of their modus operandi, and claims to originality with regard to special portions of these contrivances.

Specimens of these apparatus lie upon the table, but your committee does not feel warranted in detaining the Society, by offering any remarks upon them here, because after waving all the numerous mechanical and physiological objections to their use, their complexity alone still rests as a most formidable barrier against their claims.

For Umbilical Hernia, Dr. Hood has also patented two forms of block.

These are designed for application, by means of a peculiar belt, also claimed as original; in the centre of which is a metallic plate, connected by means of a spiral spring with another similar plate, upon which the block is secured. The spring is not claimed by the patentee, and in the blocks your committee discover nothing unusual, except the material of which they are composed. Hard blocks of other substances than wood, and of the same forms with these, have been long in use, and have been employed by one of the members of your committee with complete success, in effecting a radical cure in one case, and an apparently radical cure in another; no protrusion having taken place in the latter for three years after the close of the treatment, though some traces of the serous sac are still discoverable. Both the patients were at an age verging upon that of puberty.

With these remarks, your commmittee close this division of their subject.

4. In the month of July last, Mr. Heber Chase, who had purchased of Dr. Hood an equal right in the privileges claimed by that gentleman, in virtue of his letters patent, expressed to the chairman of the committee a desire that the merits of certain improvements upon the blocks already noticed, claimed by him as original, should undergo a full investigation before the committee, both as regards their mechanical principles and their practical effects. Throwing himself upon the profession, and before the world, the committee feel bound to bear honourable testimony to the disinterested frankness with which this gentleman has facilitated their investigations, even when these have conflicted with his interests. Claiming no exclusive privileges, and concealing no failures—he has presented to the committee all the evidence which their rather tardy action on his suggestions have enabled him to produce; and they have now the satisfaction to announce, that, commencing their researches with doubt, and with rather unfavorable preconceptions, their opinion has been rendered highly favourable to the claims of several of his improvements, by the weight of the few observations which they have been enabled to make. Your committee will not permit, however, any feeling of personal gratification to interfere with the rigorous analysis and honest report of surgical facts. The members are not disposed to suffer the influence of *men* to interfere with their calm judgment of *medical opinions*.

The blocks heretofore employed by Mr. Chase, in inguinal and femoral herniæ, are all uniform in shape, varying only in size. The models on which they are formed, may be described as longitudinal sections of oval spheroids, generated by a revolution of the curve round its long axis, and afterwards moulded by a force producing a considerable flattening on one side, and a much more abrupt curvature upon the other. (See fig. 6.) It will be perceived that these blocks possess all the advantages of the inguinal block of Dr. Hood, while they escape all the objections urged against that instrument, so far as relates to the true or common inguinal hernia.

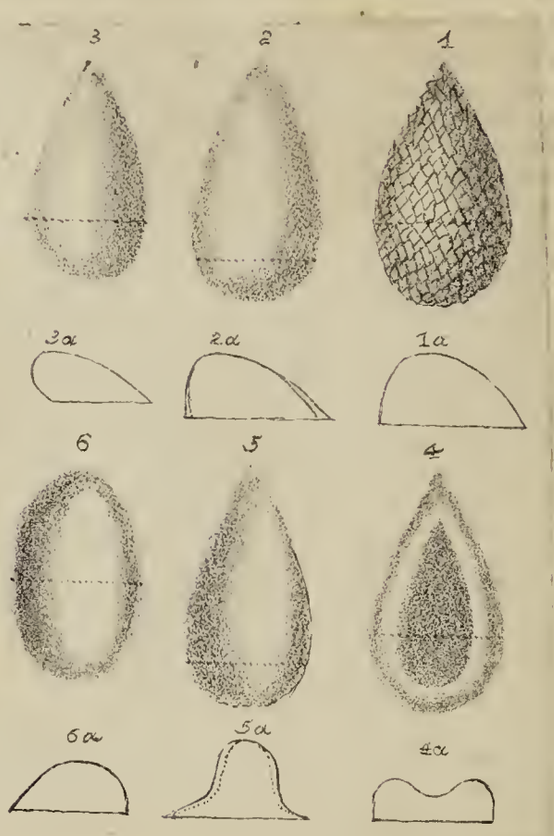
In ventro-inguinal hernia, they are perhaps less applicable than the block with parabolic projection of Hood, which has retained the bowel with surprising certainty in several bad cases under the immediate eye of the committee, though neither Mr. Chase nor the committee, are as yet convinced that they have approached the highest point of improvement in cases of this character.

In common inguinal hernia, the block is generally applied in such a manner that the surface strongly pressed upon, always includes the site of the internal ring, and nearly or quite the whole length of the inguinal canal, but the parts over the external ring are seldom entirely included.

The dimensions of smaller blocks are intended for femoral hernia. Improvements upon those designed for this purpose, have been proposed, and will be tested hereafter. The evidence of the effects of the present blocks, in one or two cases, will be laid before the Society in the sequel.

With regard to umbilical hernia, your committee has no practical evidence to offer, nor is there any pretension to originality in the mere form of the block recommended by Mr. Chase, in this affection.

You committee have confined their remarks to the mechanical character and operations of the blocks and pads, because in this part of the apparatus alone do they percieve both sufficient novelty and importance to warrant the serious attention of the Society.



EXPLANATION OF THE PLATE.

1. Stagner's Inguinal Block..... 1. a. Transerse section of do.
2. Hood's.....do....do..... 2. a.....do.....do..... ,,
3. Hood's Block with Parabolic projection for Ventro-inguinal Hernia..... { 3. a....do.....do..... ,,
4. Hood's Plano-concave Ventro-inguinal Block 4. a....do.....do.. .... ,,
5. Hood's Femoral Block..... 5. a....do.....do..... ,,
6. Chase's Inguinal and Femoral.....do.... 6. a....do.....do.. .... ,,

The Sectional Views are taken through the highest points of elevation which are indited by the dotted lines.

Ten cases are now given, but several others were at different times presented to the committee illustrative of particular points of interest with regard to the several blocks. The result was that the committee were decidedly of opinion that the retentive power of solid blocks exceeds *cæteris paribus* by considerable difference that of pads composed of softer materials.

If there could be any exception taken to this rule, it would be in favour of pads formed of very firm but highly elastic materials; but the only substance of the latter character, now employed in the construction of truss-pads, is the gum elastic, and against the direction application of cautchouc to the skin, there are strong physiological objections. Moreover, the committee is by no means prepared to advocate the superiority of elastic pads, in the present state of their knowledge. Whatever they may gain in facility of application, they lose in certainty of action. The great excellence of the solid truss-block is it perfect precision, and if required to adapt itself to changes of position in the part to which it is applied, it can be enabled so to do by the elasticity of the spring of the truss.

Two circumstances should be stated in this place:—the incompressibility of very firm pads and hard blocks renders it of the utmost importance that their form should be accurately adapted to the particular parts on which they are designed to act, and that they should be carefully placed and secured in correct relation with those parts. Carelessness in either of these respects would incur dangers, grave in just proportion to the power and usefulness of the apparatus. Hence considerable anatomical and surgical skill are requisite, both in the contrivance and the application of trusses armed with such pads or blocks, and they can never be permitted to pass, with safety, out of the hands of surgical scholars and practitioners. Again, the application of such machines, in early infancy, is deemed by the committee both unnecessary, and improper.

After some further remarks the committee arrive at the following conclusion:—

The question of novelty is one in which the committee feel but little interest, being con-

vinced that that of utility is of vastly more importance, but it will merely remark, in passing, that the almost endless variety of forms given to truss-pads from time immemorial, and the generality of the directions for forming them, as given by the highest surgical authority, would make it a task as vain as useless to render *suum cuique* in this department of surgery. The blocks of Mr Chase are, however, mathematical figures, capable of accurate expression, and, if it be thought necessary, the committee will endeavour, under the injunction of the society, to investigate his individual claims. In most of the other cases, they regard the inquiry as nearly hopeless.

If originality on the score of the materia used in the construction of the blocks be claimed, the committeee can only state its inability to recall any instance of the use of wood as a pad in hernia, occurring under the observation of its members prior to Mr. Stagner's invention, but it has been long familiar with the use of ivory.

The next article contains cases with remarks by Dr. A. Smith. One of imperforate anus—Recto-vaginal canal; the case was a female infant. The excrements were voided through the vagina. When four months old the operation for artificial anus was performed. The operation was performed successful the usual way.

An article ON ABORTION, WITH TARDY EXPULSION OF AN UNDECOMPOSED FŒTUS BY DR. PORTER, IS INTERESTING.

An article in a late No. of the Medico-Chirurgical Review, on the "Signs of Pregnancy," has the following query: "How does atmospheric air get at blood confined within the uterus? We believe there is a medico-legal question now pending—perhaps decided—respecting the putrefaction, or supposed putrefaction, of the dead fœtus in utero. Does that fœtus become decomposed in utero when deprived of life?" The following case, which has occurred within a few months, is in point, and may be interesting both to the medical jurist and to the obstetrical practitioner.

Mrs. ——— had proceeded to the fourth or fifth month of pregnancy, without experiencing any unusual circumstance. The signs of quickening, however, though anxiously expected, did not appear. With this exception, and the occurrence of severe dropsical symptoms, the other signs of pregnancy continued undiminished for another month. At this time the size of the abdomen began gradually to diminish, and at the eighth and ninth months was scarcely more prominent than ordinary. Still, a foreign body could, at times, be perceived through the parietes of the abdomen and uterus. The breasts also were distended, and there were occasional oozings of milk, though after the beginning of the ninth month, there was an evident diminution in the size and fulness of the former, and an almost entire interruption to the flow of the latter. The general health remained perfectly good. At the close of the ordinary period of utero-gestation, without pain, or any uncommon efforts, the distended membranes were found slightly protruding from the vagina—pains succeeding, cramp succeeded, and subsequently alarming hæmorrhage. Enveloped in the unbroken membranes, was a fœtus apparently of five months, which, upon delivery, was found free from any marks of decomposition. The placenta, which followed spontaneously, was in a morbid condition, being larger than ordinary, and resembling in form and consistence a sarcomatous tumour. At the usual period after delivery, milk was secreted in large quantity, and recovery was rapid and complete.

It is maintained by most respectable writers on medical jurisprudence, that decomposition and expulsion of the fœtus must speedily follow the extinction of the vital principle. Beck, in discussing the point when life commences, has these words. "The fœtus, previous to quickening, must be either dead or alive. Now, that it is not the former, is most evident, from neither decomposition nor putrefaction having taken place, which would be the inevitable consequence of an extinction of the vital principle. To say that the connexion with the mother prevents this, is wholly, untenable—facts are opposed to it." Cases may arise when it is important that an opposite opinion should prevail, especially as it seems founded in truth. To the physician also, consulted as to the existence of pregnancy, a knowledge of cases like the present may be valuable.

According to the principles of chemistry, air, moisture, and a certain range of temperature, are essential to putrefaction. If this be strictly true, we need be in no doubt how to account for the apparent anomaly in the present instance; for so long as the membranes remain entire, atmospheric air can find no entrance to the fœtus in utero. Should we be asked for proof that it will not produce its appropriate effects, acting through the fœtal membranes, in the same manner as venous blood is decarbonized in the lungs, or when exposed in a moistened bladder to a jar of oxygen, we would reply, that it is incumbent on the objector to show the permeability of such membranes to atmospheric air, and would ask in rejoinder, why were not those effects produced in the present instance?

But it may be said, that the elements entering into the chemical composition of the fœtus, may be so arranged as that they shall, when life becomes extinct, mutually attract each other, and thus decomposition be effected without any extrinsic influence. It is granted that this tendency to spontaneous putrefaction exists in certain combinations, and varies with the relative proportion of certain constituents; it being particularly strong whenever oxygen and hydrogen exist in the proportions to form water. But this is far from being true of the elements of gelatine and albumen, proximate principles of which the young of all

animals are chiefly composed ; and it is well known how little in their concrete state these articles are disposed to putrefaction.

Two objections to this view of the case may arise. One is, that the fœtus was actually expelled, soon after life became extinct, an error having occurred as to the existence of pregnancy: and the other—that, owing to the morbid condition of the placenta, its functions were so much weakened, that although sufficient to prolong vital action in the fœtus, yet it was inadequate to its customary nutrition and growth.

In answer to the first, it is sufficient to say, that, supposing the objection well founded, all the legitimate signs of pregnancy existed before the condition had actually occurred, and, during its existence, were constantly diminishing. In reply to the second, it may be said that every appearance of the fœtus would contradict such an opinion, it resembling in every respect the description applied by the authorities to one of five months, and confirmed by the writer's experience.

It may be mentioned, as a striking coincidence, that eight cases of abortion have come to the knowledge of the writer, which occurred during the month within which the death of the fœtus, in the case detailed, is supposed to have taken place, and all in this immediate neighbourhood. In these cases there was incipient putrefaction at the time the fœtus was expelled. The influence of atmospheric changes in producing abortion, has been noticed since the age of Hippocrates, who affirms that "a warm winter, accompanied with rains and south winds; and succeeded by a cold and dry spring, causes abortions very readily in those females who are to be delivered in the spring." While the unusual severity of the past winter will not enable us fully to confirm these observations, there are, doubtless, peculiar seasons when, from certain unknown causes, the death of the fœtus occurs as if by an epidemic.*

The foregoing extracts show that the American Journal is replete with valuable matter. Several communications from our Journal are given, among these are those of Drs. Fuller, Raleigh and Wise.

We now proceed to give Miscellaneous selections.

STAPHYLOMA TREATED BY EXCISION OF THE CORNEA, AND NOT FOLLOWED BY DESTRUCTION OF THE EYE.

A young girl had suffered from a severe attack of purulent ophthalmia of the right eye, which had been followed by complete staphyloma. The cornea was quite opaque throughout, and very prominent, so that the eyelids could not close over it, when the patient was asleep. Numerous enlarged vessels extending from the sclerotic coat ramified on the surface of the marbly-blue cornea. As is usual in cases of staphyloma, this little girl had got into the habit of stooping forwards, and leaning the head towards the affected side.

Dr. Buck of Lubeck, under whose care she was placed, recommended that the projecting part of the cornea should be cut off; expecting that by this operation the contents of the eyeball would be discharged, and that the patient might then we are an artificial eye. The second eye having been closed, Dr. B. with one sweep of a cataract knife, sliced off the cornea to within a line's breath of its attachment to the sclerotic.

The aqueous humor with some drops of blood flowed out; and immediately afterwards the eyelids closed together with a spasmodic firmness, so that nothing else escaped. On examing the detached cornea, it was found to be of a leathery consistence ; its inner surface was as smooth as its outer, and therefore there could have been no adhesion of the iris to it, as is the case most frequently in cases of staphyloma.

The patient was kept quiet for a fort night in a dark chamber. At this time on removing for the first time the bandage from the sound eye, a sharp pain was immediately felt In the diseased one.

By the end of the third week, she could open both eyes without any annoyance, and then it was first discovered that a membrane of plastic lymph had been formed in the place of the removed cornea. This membrane was, as might have been expected, flat, and being of a blueish white colour, the iris could not be easily distinguished through it. The adhesion of this membrane to the edge of the remaining portion of cornea was so close and intimate, as to be not distinctly recognizable.

After some months, the patient's power of vision was somewhat greater than it had been before the operation. She could distinguish, though imperfectly, the profile of large dark objects placed before her. The form of the eyeball, with the exception of its anterior face which was permanently flat, remained unaffected. – *Rust's Magazine.*

CESSATION OF PULSATION IN SEVERAL LARGE ARTERIES OF THE UPPER AND LOWER EXTREMITIES.

By Mr. Ed. Crisp.

This is one of the most remarkable cases, of the kind, on record. We have had an opportunity of carefully examining the patient, through the kindness of Mr. Crisp, and shall now lay the particulars before our readers, omitting the minute details of daily prescription.

A young female, aged 22, of healthy parents, had had a severe attack of pneumonia about three years ago, under Mr. Crisp's care. Subsequently she was in service at Hackney, where she had been exposed to cold, and never considered herself as quite well after the pneumonia. She had headaches, and occasional fits of hysteria.

Jan. 31*st*, 1835. She came under the reporter's care, complaining of pain in her legs and arms, with rigors followed by febrile

* Two cases similar to the above have recently been communicated to the Academy of Medicine by Dr. Vassal: they will be noticed in another department.

action. Pulse small and 90 in number—bowels confined—tongue furred—pain in the epigastrium—menses regular. Aperients and febrifuges. These lessened the epigastric pains, but those of the lower extremities continued. On the 3d of February, Mr. Crisp was sent for, on account of severe pain in the stomach, with vomiting. The pain had left the lower extremities. She was bled to eight ounces, with relief. 4th. The pains returned in the extremities, and ceased in the stomach. 5th. Hands and arms cold, with tingling sensation in the fingers. *No pulse at either wrist*—heart and carotids acting strongly. On the 9th she was examined. Pulsation ceased about an inch below each clavicle—dorsal arteries of the feet beating forcibly at 90. 11th. The integuments of the right arm extremely painful. Dr. Whiting visited her, and found pain and tenderness, on pressure, along the main arteries of the arms. Ordered leeches below the right clavicle, and to have calomel and antimony.

13th. *No pulsation* could be felt in the dorsal arteries of the left foot, and indistinct in the popliteal. A thrilling sensation in the carotids, and *bruit de soufflet* over the heart. 14th. A slight vibratory movement felt in the radial artery of the left arm. 16th. Pain of left leg severe. 18. No pulsation in either of the arms—ceases about three inches below Poupart's ligament in the left thigh. The foot and fore-part of the leg of a purple colour—tips of toes cold—profuse prespiration over every part of the body. 22d. *No pulsation in any artery of the extremities.* The toes and sole of the left foot black. March 6th. Since last report the pain has become excessive—very little sleep—pain in the region of the heart—bruit de soufflet—little and great toe of *right* foot black and painful. These were removed on the 8th March. We need not pursue the details of this curious case. On the 5th of October the left leg was removed below the knee. On slacking the tourniquet, there was very little bleeding from the large arteries—"*the blood not coming per saltum.*" The smaller arteries bled freely, and it was necessary to take up nine or ten of them. The leg was examined with great care. The large arteries were slit up, "but no trace of disease could be found in them." "They appeared to be smaller than natural."

We examined this young woman on the 21st December, in company with Mr. Crisp and Mr. Hooper, and noted the following particulars.

The stump is nearly healed. The temperature of all the extremities is considerably below par. The left arm has the highest temperature. In it there is a very faint pulsation of the radial artery. In none of the other extremities could we detect any action of arteries by the finger or the stethoscope. The subclavian of the *right* side presented the loudest *bruit de soufflet* we ever remember to have heard. The same in the right carotid. In the right axilla no pulsation could be felt or heard. The *left* subclavian gave out considerable *bruit de soufflet*, but less loud than on the opposite side. In the left axilla, a faint pulsation could be heard by the stethoscope. The *bruit* in the *left* carotid was in proportion to that in the subclavian of that side. The action and sounds of the heart were perfectly normal. The muscular strength of the limbs corresponded with the temperature and state of the circulation. It was very weak in all the limbs, but strongest in the left arm, where some pulse was still perceptible.

The case excited considerable discussion in the London Medical Society—some of the members contending that the loss of circulation, or at least of pulsation, was a functional disorder of an hysterical nature. Others maintained that there was a mechanical obstruction to the circulation, occasioned by arteritis or some other cause. Among the latter we ranged ourselves, and we have not the smallest doubt that a mechanical obstruction of the circulation exists. In consequence of the interest excited by this case, we have tried back for illustrations. The following is the result of our researches, though doubtless a more diligent inquiry would disclose many other examples of an analogous kind.

Dr. Parry, in his work on the pulse, page 140—says that he has met with twenty instances of cessation of the pulse—some terminating fatally, others favourably, after a longer or shorter period. Only one dissection, however, is given.

"A female, affected with severe cough, was apparently convalescent, when it was discovered that the pulse in one arm was wholly wanting. A few days afterwards she died suddenly.—*The whole course of the aorta* was carefully examined; but no deviation from the healthy state could be perceived in it."

In the 19th vol. of the Med-Chir. Rev. p. 285, a curious case is communicated by Dr. Ferguson, of the 5th Regiment of Foot. A young, but delicate soldier, was sent on escort duty in Ireland, where he got thoroughly drenched with rain. On his return, he was seized with violent pneumonia, accompanied by distressing palpitation of the heart, and a *total absence of pulse in both wrists.* The action of the carotids, in the mean time, was unusually strong. The inflammation of the lungs was subdued, but the abolition of the pulse in both the upper extremities continued many months afterwards, when the case was communicated to Dr. Johnson. During this time he was unable to do any duty, and could take very little nourishment, yet he did not lose flesh. He was subject to severe pains under the sternum, with sense of suffocation, and livor of the countenance.

Morgagni quotes a case from Ramazini, of a young man in whom abolition of pulsation in all the arteries existed for four days. During these four days he was cold and passed no water. He died, but no dissection is given.

In the Medico-chirurgical Review for December, 1822, Dr. Johnson has given an account of a case of non-pulsation in all tangible arteries, except the carotids, where a very faint pulse was felt. On examining the heart, no action could be felt or heard in that organ! The patient laboured under hydrotho-

rax, ascites, and anasarca. The pulse returned on the third day, after brisk purgation and considerable diuresis. He died, and presented dropsy of chest and abdomen, with organic disease of the heart. The pressure of fluid was supposed to embarrass the action of the heart, and prevent the evidence of pulsation there, or in the arteries for a time.

The first thing that attracted John Hunter's attention to his own case, was temporary loss of pulsation in the wrists. In one of these states, he happened to look in a glass, and perceived that his face was like a corpse. He died in one of these attacks, and it was found that he laboured under angina pectoris. The heart was small and flabby—the coronary arteries and mitral valves ossified.

Sir B. Brodie mentions a remarkable case in his lectures. "A man was walking on a hot day through Battersea-fields, when he experienced pain in the lower extremities, one of which was more affected than the other. The pulse disappeared in this extremity—the foot mortified—became dry, hard, and horny. The mortification reached to the middle of the thigh, and there stopped; but the man died in St. George's Hospital. On dissection, both artery and vein were found inflamed, from the middle of the iliacs to the middle of the thigh, and their canals filled with coagulable lymph."—*MS. Lect.*

Sir B. B. quotes a case of this kind from Saviard, who amputated, but had not a single artery to tie, all being choaked up with coagulable lymph.

In the 4th vol. of the Med.-Chir. Rev. there is related a remarkable case of non-pulsation in all tangible arteries during a period of 24 hours. The gentleman (Mr. Lowndes) is now residing in the Haymarket. From excessive urethral irritation, a most serious constitutional disturbance was set up. The pulse disappeared from all tangible arteries—the extremities were cold—the fingers blue—breathing short and laborious. On careful examination with the stethoscope, in company with Mr. Thomas of Leicester place, only an indistinct fluttering of the heart could be perceived—and no action of any of the arteries. The patient was, in fact, in the same condition, as respects the circulation, in which so many thousands of people have been found during the late epidemic cholera. The heart was clearly in fault in this case—and stimulants restored the circulation at the end of 24 hours.

In the 19th volume of the Med.-Chir. Review, p. 207, the following case is related from the *Archives Générales.*

A girl, 17 years of age, became affected with pain in the right lower extremity, and she entered La Charité 14 days after the commencement of the complaint. On examination, no pulsation could be perceived in anterior or posterior tibial artery, nor in the popliteal artery. The disease ultimately ended in dry gangrene and death. On dissection, the crural artery, from the groin to the ham, was converted into a hard cord, plugged up by a coagulum. There were marks of arteritis in various parts of the arteries of this extremity.

In respect to Dr. Parry's case, it is hardly necessary to remark, that the examination of the *aorta* led to no satisfactory results. It was like exploring Fleet-street, to find out the cause of an obstruction in Holborn!—*Med. Chir. Rev.*

ANOMALOUS CASE OF LITHOTOMY.

By Professor Lizars.

A surgeon attached to a large hospital has peculiar opportunities for improvement, and he fails of his duty, if he either neglect them, or conceal the useful results of his observation and experience. Success, though it flatters vanity, is at best an equivocal proof of merit, for it may happen to the rash and unskilful. Successful cases, in ordinary circumstances, when published, afford but little information; timidity may be unwilling to divulge the unsuccessful, but these are for the most part our proper instructors; from these we learn whether nature or art is the more to be blamed for any untoward event; but whether successful, or unsuccessful, those cases are invaluable which lead to the detection of such morbid deviations as would certainly occasion the death of a patient in the hands of an irresolute operator. Of this last class is the following case.

Jas. Brown, a healthy-looking man, fifty-nine years of age, entered the hospital on the 29th December last, and presented the usual symptoms of stone in the urinary bladder, under which he had laboured during the last eight months. He had been in this hospital seven months ago under the late Professor Turner, who sounded him, but detected no calculus. The day after his admission he was carefully sounded, but no stone was felt; the bladder was rough and fasciculated. He was ordered warm baths, leeches to the region of the pubes, the mistura aquæ potassæ, the uva ursi, and a seton over the pubes. By these means all irritation having been subdued, he was again sounded, and a stone distinctly perceived. A dose of castor-oil was administered; and on the following day the lateral operation was performed.

All the preliminary steps having been taken, and the existence of a calculus again ascertained, a large staff was inserted, which could not be made to pass the prostatic portion of the canal. A smaller staff was next employed, which apparently entered the bladder, as its handle was loose and moveable. One of my colleagues held it over the pubes, whilst I commenced, and cut down to the membranous portion of the urethra. I then proceeded seemingly through the left lobe of the prostate gland, which was hard, cartilaginous, and studded with calcareous deposition. The left fore-finger, which guided the lithotomy knife, seemed to enter the urinary bladder, and a little fluid, considered to be urine, flowed out, when I begged the staff to be withdrawn. I next inserted a pair of forceps; but instead of a calculus such as the sounding had led me to expect, I discovered nothing but calculi, varying in size from that of a millet-seed to that of a pea. I now

used a searcher, but was not more fortunate. My finger felt a pouch equal in magnitude to a urinary bladder, which contained numerous small calculi. One of my colleagues, at my request, introduced his finger, and the sensation communicated so nearly resembled that of a mucous membrane, that he suspected I had wounded the rectum, but convinced himself of the contrary by examining that viscus with the forefinger of his other hand. Another of my colleagues was also requested to examine, and he, with a scoop, removed some of the small calculi already mentioned.

I now inserted a catheter, which passed the entrance of this pouch, got into the bladder, and urine flowed out. The catheter was replaced by a staff, along which the knife was carried through the neck of the bladder, as there was no substance like prostate gland, and a stone of the size of a flattened plum was instantly extracted.

The first incisions into the pouch occupied about one minute. The second incision and extraction of the calculus about another minute. From fifteen to twenty minutes were spent in examining this pouch.

The patient has had no bad symptom—no case of lithotomy ever went on more favourably—and this is now the tenth day from the operation.

The anomalous pouch, which rendered this case so complex, seems to me to have been nothing more than the external fibrous capsule of the left lobe of the prostate gland gradually dilated, until it became as large as the bladder itself.

Crosse, in his work on Urinary Calculus, p. 34, says, "Concretions in the prostate gland, commencing in its ducts, often at a distance from their urethral orifice, even at the very bottom of a duct, go on increasing until each duct is enlarged into a pouch, rendering an escape of the concretion into the urethra impossible; the narrow orifice by which the pouch communicates with the urethra becomes often closed, in consequence of inflammation and effusion of lymph; the pouch is a secreting cavity which furnishes additional deposit; and as the concretions enlarge or multiply, the pouch enlarges in the direction of where there is least resistance towards the lateral or posterior surface of the prostate gland."

Wilson, on the Urinary Organs, at page 353, also observes, "I have met with a urinary calculus larger than a common-sized olive in a cavity of the prostate gland, where, from the orifice which first admitted it having contracted, or the size of the calculus having enlarged, the stone could not be pressed back into the urethra, and the whole of the prostate gland had been changed into a capsule surrounding it."

I possess a preparation in my museum with cysts exterior to the urinary bladder, one of which may hold from four to five ounces. These communicate with the bladder. Another preparation where the right lobe of the prostate gland forms one capsule.

I confess freely that I was not prepared the complication just described, nor am I ashamed to confess it, since no mention is made of such an anomaly in the writings of the most eminent surgeons, if we except Crosse and Wilson, from whose works I have quoted above, but which I had not seen.

JOHN LIZARS.

Edinb. 38, *York-place*, 21*st Jan.* 1836. [*Ibid.*

LECTURES ON MEDICAL STATISTICS.

BY ROBERT GRAVES, M.D.

We extract the following observations from one of a series of excellent clinical lectures, delivered by Dr. Robert Graves, and published in our contemporary, the London Medical and Surgical Journal.

Chances of Life.

As a general fact it may be stated and admitted, that of a given number of children born in this country, one-third die before one year, one-half before the eighth year, two-thirds before the thirty-eighth, and three-fourths before the fiftieth year. But such general facts are drawn from data in the mass, and must necessarily include facts which differ toto cœlo from each other; for averages of course include opposite extremes in their expression. Dr. Graves relates two interesting opposing facts.

"On Patrick's day, in the year 1782, nine students walked from Trinity College, Dublin, to Bullock, where they dined. In 1833 eight of them were still alive, and I have not heard of the death of any of them up to the present period. I mentioned this fact the other day to a very fine old gentleman aged seventy-six, and he observed that he could communicate another of an opposite description. He said that he had served in the Irish volunteers in 1782, and that of his entire grenadier Company, consisting of fifty men, there was only one now living. What a different fate overhung these two groups of persons. It is remarkable how long a certain set of men holding the same office sometimes happen to live in succession.—There can be little doubt that the steady policy of the imperial court at Vienna has been partly, at least, owing to the extraordinary length of time the modern prime ministers of Austria, including Metternich, have lived. A similar successive longevity on the part of the rulers of Prussia, has aided other circumstances in aggrandising their territories, as has been well remarked by a late writer in the *Edinburgh Review*."

Dr. Graves mentions the following as a calculation of the chances of life approaching to the truth. The chances are equal that every healthy adult will live half the difference between his own life and eighty-one. This, which is the mode of computation generally employed, is very near the truth. Thus, if a man be forty years of age, the chances are equal that he will live half the

difference between it and eighty-one years, viz. twenty years and a half, and, therefore, that the duration of his whole life will be about sixty years.

Our readers are aware that the total numbers of male and female children brought into the world are very nearly equal, a small excess existing on the side of the males. In Germany and England the proportion of males to females is as twenty-one to twenty, while in Ireland it is generally as twenty-one to nineteen. But this slight excess is ultimately corrected by the greater mortality of the males before the period of puberty. After that age the excess is slightly on the female side.

Dr. Graves relates some interesting observations of M. Giron's with regard to the relative numbers of males and females born from a given number of marriages in different ranks of life. M. Giron divides individuals into different classes; the first is composed of individuals whose employments tend to develope their bodily powers; the second, of those whose business tends to enervate; the third, of those whose employments are of a mixed description. He found that, in the first class, the number of male births exceeded the average proportion of male and female births throughout France: that, in the second class, the number of female births, exceeded the average proportion of female to male births throughout France; and that, in the third class, the proportion of male and female births was nearly the same as the average proportion throughout France. Hence he arrives at the conclusion, that the pursuits of agriculture tend to the increase of the male population, and that the habits of commerce and manufactures favour an augmentation of the female population."

The next point alluded to by Dr. Graves is the variety in the proportion of births to a marriage.

"It has been supposed," says he, "that the fecundity of marriages is in proportion to the comfort and independence of the community, and that fewer children are born from a given number of marriages in countries which are deficient in agriculture, industry, and the blessings of civil liberty. This, however, is not the fact. In England the proportion of births to marriages from 1800 to 1810, was as 4 to 1, and from 1810 to 1821, as 4.22 to 1. In Scotland and Holland it is as 4·2 and 4.20, while in Russia and several of the Italian states it is as 5.25 and 5.45, to 1. I shall not take up your time with these statistical details any farther than to observe, that in the degree in which a nation advances in prosperity and civilisation, premature and imprudent marriages will become less frequent, and the number of births be proportionally diminished. The lateness of marriages may be generally taken as a good test of an improved state of society, as exhibiting that power of moral restraint over his passions which should characterise civilised and intelligent man."

We fear the latter observations is more characterized by charity, and good feeling, than by absolute truth. We greatly doubt if morality increases with civilization, or if late marriages be a proof of restraint over the passions. In marriages, woman is the passive agent, and men decide its period. Necessity, in a country like our's prevents the early marriage of persons in the middle, and perhaps, also, in the lower class. The men will not marry and the women cannot. The latter are compelled to restrain their passions, if any such are felt, but are we so certain that the same restraint is practised by the former? Do the countless cyprians that throng our streets, and flaunt in every public spot furnish unexceptionable evidence, of the continence and moral rectitude of man? We fear that they do not.

LIVES OF LITERARY PERSONS.

"I had almost forgotten to mention the remarkable fact, that the cultivation of science and literature appears to be favourable to longevity, contrary to the opinion generally entertained on this point; indeed it seems that the man who is chiefly engaged in mental labour has a fairer prospect of length of years than he whose occupations consist in exclusive bodily toil. Franchini has enumerated one hundred and four Italian mathematicians of different epochs; he has ascertained the ages at which seventy of these died, and among them we find eighteen who had attained the age of eighty, and two of ninety, and this in a climate which is not generally considered to be favourable to longevity. In France, one hundred and fifty-two men of science and letters have been taken at random; half the number appears to have cultivated science, and about half to have devoted themselves to general literature; on adding together the age at which each of them had died, it was found that the average result would be above sixty-nine years, for each individual.*

Comparative Longevity of Female Authors of the last Century—Quarterly Review. No. 99, on Madden's Infirmities of Genius.

	Age		Age
Lady Russel.....	87	Mrs. Chapone	75
Mrs. Rowe	63	Mrs. Lennox	84
Lady M. W. Montague	73	Mrs. Trimmer	69
Mrs. Centlivre....	44	Mrs. Hamilton....	65
Lady Hervey.....	70	Mrs. Radcliffe....	60
Lady Suffolk.....	79	Mrs. Barbauld....	83
Mrs. Sheridan	47	Mrs. Delany	93
Mrs. Cowley	66	Mrs. Inchbald ...	68
Mrs. Macaulay	53	Mrs. Piozzi.....	80
Mrs. Montagu.....	81	Mrs. H . More....	89

SUICIDES.

Dr. Graves mentions facts connected with suicides not devoid of interest.

Suicides are not so much the privilege of John Bull, as some persons suppose. There

* This average duration of the lives of literary men which is given by Hawkins, is evidently greater than can be allowed, neither are Madden's tables of the mean duration of the lives of *literati* free from the same error, as is well shown in the *Quarterly*.

are more in France than in England, indeed it is probable that for one in London there are five in Paris. Irritation is a frequent cause of suicide, and of this our author mentions several instances. Industrious and prudent people very seldom commit suicide. Out of 120,000, who insured their lives in the Equitable Insurance Office, the number of suicides in twenty years was only fifteen.

The Irish are the least suicidal nation in Europe. Dublin and Naples are the two cities in which fewest suicides occur. Yet in both the poorer class are very poor indeed. Dr. Graves observes that an Irishman often murders his neighbour but never dreams of killing himself. The fact is that the prevalence of murder prevents the necessity for suicide. If both prevailed the "seven millions" would be reduced. There were forty murders in Ireland for one committed in Prussia, and in Prussia there were forty suicides for one committed in Ireland. There *were*, for the calculation was made ten years ago. Both nations have since materially changed. Fewer Prussians, in proportion, are now killed by themselves, and many more Irishmen are now killed by others.*

The Lectures of Dr. Graves, from one of which we have drawn the preceding facts, are well worthy the attention of all how take an interest in medical science.—*Ibid.*

FLANNEL IN HOT CLIMATES.

In the United Service Journal for Aug. 1835, there is a very valuable paper by Dr. Ferguson, on the "Health of Troops," which we strongly recommend to our military medical readers—and, indeed, to all military men, whether medical or not.

We were gratified to find our own opinions, respecting the use of flannel next the skin in tropical climates, corroborated by a talented army physician. Dr. F. observes:—"I, for one, protest against (flannel) as an enervating habit, of which the healthy, hardy soldier can never stand in need. To the feeble and valetudinary it is most useful; and, as an hospital indulgence, highly proper; but, when worn in the crowded barrack-room, with, too often, bad washing and insufficient change, it becomes a deposit of filth—even of contagion, irritating to the skin, and incompatible with health and cleanliness." Dr. F. very properly makes some exceptions, such as in bivouacs, and when the soldier is encamped, and in a rigorous climate. "With the above exceptions, it should never be seen either in the barracks or quarters."—*Ibid.*

PATHOLOGY OF RHEUMATISM.

There is a curious coincidence between two physicians respecting rheumatism. Dr. Johnson's observations were published in No. 44 of this Journal, p. 460, April, 1835. M. Parise published his sentiments in July of the same year, in the Bulletin General. Both writers labour to separate acute rheumatism from chronic, considering the former as *arthritis*—the latter, as a peculiar affection, probably neuralgic, of the investing sheaths of muscular fibres—or perhaps of the neurilema of the nerves themselves. The authors do not coincide, however, on one point. M. Parise looks upon acute rheumatism, as differing in no respect from common inflammation of a joint—say that which would arise from the kick of a horse, or a strain. Dr. Johnson, on the other hand, maintains that acute rheumatism is closely allied in its nature to *gout*, affecting usually the same parts, and very often not to be distinguished from the latter disease.

SINGULAR CASE OF STERCORACEOUS VOMITING DURING A PERIOD OF EIGHTEEN MONTHS, CAUSED BY ADHESION OF THE SIGMOID FLEXURE TO THE TRANSVERSE ARCH OF THE COLON, AND THIS AGAIN TO THE GREAT CURVATURE OF THE STOMACH. WITH ULCERATED COMMUNICATION THROUGH ALL THESE PARTS.

By Adam Dickson, Esq.
Surgeon, Rachan Mill, N. B.

Mrs. F. ætat. 38, ever since the birth of a child, about 18 years ago, had been in very delicate health, and subject to occasional cough and expectoration, after exposure to cold, with constant dyspnœa periodically exasperated. About six months before she came under Mr. Dickson's notice, she had had an attack of abdominal inflammation. The treatment was so far successful, that she had been restored to nearly her former state of delicate health, except that slight general tenderness of the abdomen still remained, with a constant, acute, and lancinating pain in the left iliac region. When first seen, it was on account of a recurrence of the symptoms of a general peritonitis, with severe aggravation of the local complaint, As the patient was feeble, and considerably emaciated, recourse to general blood-letting did not seem warranted, and Mr. D. trusted to leeching, blistering, fomentations, calomel and opium, and mild purgatives, which had the effect of speedily relieving the constitutional symptoms, and removing the tenderness of abdomen, but did not produce any marked effect on the pain, which had remained ever since the former attack. It was most acute in the left iliac fossa, and extended upwards, in the direction of the descending colon, into the left hypochondrium. There was no external swelling or fulness; but, upon careful manipulation, a small hard tumour could be felt in the situation of the sigmoid flexure, which was most acutely tender when pressed upon, and was the point from which she described the lancinating pains as proceeding. The bowels were at all times costive, and she required the constant use of pills to regulate them, as she uniformly experienced an aggravation

*If official statements are to be relied on, the increase of murders in Ireland has been progressive since the *penultimate* rebellion.

of the pain when they were neglected. About three months after having first seen her, and after having, in the mean time, used leechings, blisters, ointment of tartrate of antimony, mercurial and iodic frictions, narcotics, &c. without making any impression on the disease, she had an attack of decidedly stercoraceous vomiting, by which she evacuated about three pints of a thickish fluid in the course of the day. The vomiting returned a week after, in nearly the same quantity, but more markedly stercoraceous. The evacuations *per anum*, had, notwithstanding the exhibition of laxaitves and enemata, been very scanty during the time which intervened between the attacks of vomiting, as well as habitually before the first. When the fæces were evacuated without assistance of laxatives or lavements, their diameter was small, affording a presumption that organic contraction of the gut existed, in the locality indicated by the lancinating pain. After this period, the vomiting, in spite of every remedy that could be tried, continued to recur more frequently and the natural evacuations downwards to become more scanty, until about four months before death it occurred every day with great regularity; or, if it missed one day, a larger quantity was brought up next day. The peristaltic motion of the bowels, except of a small portion at the lower end, seemed to be completely inverted; for, when a purgative was exhibited, it never failed to act as a purgative, in the inverse direction, and always brought away, by the mouth, a larger quantity of liquid fæces than was vomited on ordinary occasions; while clysters produced very little, and often no effect at all. These vomitings were extremely painful, being always preceded by three or four hours of very severe sickness and violent headache —the disgusting fæcal taste was never absent from the mouth, and the tongue was constantly covered by a thick yellow fur. The pain continued to become worse—the patient got no sleep, and could take no nourishment—emaciation became extreme—at length the hands and feet swelled—diarrhœa took place, and she died in a week from its commencement, and eighteen months from the origin of the complaint. The vomiting continued to the last.

Inspection. On opening the abdomen, the products of inflammation were sufficiently obvious, in numerous adhesions, which were apparent at first sight; but the most remarkable feature was, the almost complete concealment of the small intestines, by the displacement of the stomach and transverse arch of the colon, which, intimately and inseparably connected with each other, were both drawn out of their natural situation, and firmly adherent to the sigmoid flexure. Upon making a careful and minute dissection of these parts, it was found that their connexions and modes of communication by morbid openings were highly curious, and perhaps unprecedented. There was first, a large ulcerated opening, with foul and ragged edges, in the great curvature of the stomach, communicating with the transverse colon, which was inseparably attached to it. A similar ulcerated opening, through the opposite wall of the colon, led directly into the commencement of the sigmoid flexure, which firmly adhered to the transverse arch, in the same manner as the arch adhered to the stomach—the whole three, stomach, arch, and sigmoid flexure, being closely matted together in one point, and forming a firm, hard mass, which had been the tumor felt during life in that situation. The scirrhous ulceration had thus destroyed four folds of intestine—the coats of the stomach—both walls of the arch, and one fold of the sigmoid flexure of the colon, and formed in this manner a patent communication, of not more than two inches in length, between the stomach and the lower part of the large intestines, and in consequence cut off and obstructed the whole tract of the alimentary canal above the arch of the colon.

The opening leading from the great curvature of the stomach into the transverse part of the colon, and from that into the sigmoid flexure, was wide, and admitted two fingers with ease; while the continuation of the colon, on either side of these adventitious openings, was contracted by bands of cartilaginous firmness, so as to admit only the point of the little finger. The small intestines, and the colon above the diseased point, contained a very considerable quantity of consistent, but not hardened fæces, which proved that the colon, though its tract was still open to the extent already mentioned, had not admitted the passage downwards, of any of the contained matters; and that the diarrhœa, which had existed before death, had taken place entirely from the inferior portion of the great gut. The pancreas was of very unusual size, but its structure was perfectly normal. The lungs presented fine specimens of vesicular emphysema, but there was no traces of diseases in any other organs of the abdomen or chest.

This case is curious, both for the complication of the organic lesions which it displays, and for the great length of time during which the inverted action of so large a portion of the intestinal canal existed. It is perhaps unprecedented, that the mouth should, for such a long period, be the emunctory of the whole tract of the intestines, except the small part below the sigmoid flexure.

The scirrhous ulcertaion had Mr. D. imagines, commenced in the sigmoid flexure—the situation in which pain was first felt: this, when its coats were nearly penetrated, had become attached to the arch of the colon by adhesive inflammation, a protective process which we find so often taking place to prevent effusion into the cavity of the peritoneum. During all this time there was no vomiting; but as the diameter of the colon became contracted, and the coats of the stomach involved, vomitting took place at intervals, to relieve the upper part of the intestinal tube of the contained matters, which could not find a ready exit downwards. As the contraction of the colon proceeded, and the coats of the stomach became perforated, the irritability of the ulcerated surface, would combine with the diminished diameter of the bowel, to prevent

the passage of the fæcal matter along its tract, when the inverted action became fully established as it was for the long period mentioned. This mode of progression, and this order of the involvement of parts, is the most probable, and that which agrees with and best explains the symptoms observed. The principal subject of curiosity is, the endurance of life under such extraordinary circumstances.—*Ibid.*,

SUPPRESSION OF THE URINARY AND ALVINE SECRETIONS FOR SEVERAL YEARS.

Dr. Montesanto has related this almost incredible case in an Italian journal. The individual (Dom. Valetto) had sustained an injury on the loins nearly 18 years ago, followed by weakness of the lower extremities, and difficulty of discharging urine and fæces. He was committed to prison, in Padua, for some crime, and was there seized with inflammation of the medulla spinalis, succeeded by paralysis of the lower limbs. The patient vomited daily the ingesta which he had taken —and complete suppression of the renal and intestinal evacuation now took place.—After some time stercoraceous matters were vomited up, as well as partially digested substances. In this wretched state he continued eight years, viz. till 1828, when M. Montesanto took him in charge. The stercoraceous vomiting now became less frequent, and was sometimes absent for a considerable period of time. Inflammatory and congestive symptoms rendered bleeding very often necessary. The inexorable tribunal of justice, devoid of humanity, refused all application to have this victim transferred from a loathsome cell to the wards of an hospital!! He lingered out a miserable existence of 17 years, and expired in February, 1835.

Dissection. Nothing particular in the brain. Vertebral canal normal. In the canal itself was found much sero-sanguinolent fluid. The medulla spinalis was apparently free from disease. The stomach was preternaturally large, and contained some yellow and fæcal matters ; but its coats were unaffected. The gall-bladder was void of bile, but contained a number of biliary calculi. The small intestines presented several contractions, particularly in the vicinity of the cæcum. They contained the same kind of matters as the stomach. There was nothing remarkable in the colon above the sigmoid flexure. There the parietes became thickened and contracted, and the mucous membrane presented several ulcerations. There was fæcal matters throughout the whole of the alimentary canal—very fluid in the small, but dry in the large guts. The liver was normal. The bladder was contracted, and its coats thickened. It contained a few drops of thick urine. The kidneys were healthy—ureters flaccid.

The appearances on dissection are very far from accounting for the strange phenomena during life. We are not without suspicion that some deception was practised on our Italian friends. The darkness of a dungeon, and the hopes of mitigation of sentence, were circumstances favourable to such attempts. The discipline could not have been very rigorous, for we are told that he often indulged in large potations of brandy! But the statements respecting the *suppression* of urinary secretion, for so many years, contrary to the acknowledged condition of the urinary apparatus, as proved by dissection, and contrary to all experience, pathological and clinical, stamps the whole case as calculated to make the ignorant stare, and the credulous to wonder. We have just as much credence in this case, as we have in the spontaneous liquefaction of the blood of St. Januarius! Some of our contemporaries have been finely hoaxed by Dr. Montesanto!—*Ibid.*

INTENSE HEADACHE (IN PAROXYSMS) REMOVED BY TONICS AND LOCAL BLEEDING—(DR. BRIGHT).

This case is related in the first No. of Guy's Hospital Reports. The patient was J. King, aged 50, who was admitted in February, 1835, labouring under intense headache, somewhat periodical, of ten months' duration. The pain arose from the nape of the neck, extending to the front of the head, coming on in paroxysms, and attended by giddiness, and sometimes loss of consciousness. No external tenderness—no paralysis—pulse 84. The nitrate of silver was applied to the shaven scalp, and aperients were ordered. Five days afterwards he was not relieved, and, in the paroxysms, the pulse fell to 52, rising, as the pain abated, to 64. Senna was given, and cupping-glasses applied to the nape of the neck. The ferri subcarbonas was also prescribed, in 40 grain doses, every four hours. In four days more, the paroxysms were found to be more frequent than before. The dose of the carbonate was doubled. Senna draughts, with colchicum, were exhibited. In two or three days more, the cupping was repeated, and the arsenical solution was prescribed, with cascarilla. Afterwards the quinine was ordered, and taken for a fortnight, with a couple of week's freedom from pain. In this state, the patient was discharged ; but whether or not he was permanently cured, the deponent saith not.

EXTIRPATION OF THE GREATEST PORTION OF THE RIGHT SUPERIOR MAXILLARY, AND THE ANTERIOR PART OF THE MALAR BONE, WITH A FIBRO-CARTILAGINOUS-LIKE TUMOR, WEIGHING TWENTY-ONE OZS.

By Richard Tuthill, M. D. Surg.

[*Received through the Army Medical Board.*]

James Samuels, aged 25, a black, in the parish of Irelanny, Jamaica, healthy-looking, with the exception of a large morbid growth, occupying the right side of the face.

Reports that, when a lad, he received a kick from a horse in the right cheek. When grown up, he for the first time felt a small lump, like a kernel, in the same spot. This lump was situated external to the centre of the antrum,

and has gradually increased, from the centre to the circumference, to a most enormous size, rendering the man a most frightful and disgusting spectacle, and his existence an annoyance and burden to himself. He experiences an unceasing pain, shooting through the orbit, sometimes through the whole head and face, with a fetid discharge, and occasional hemorrhage to a great extent.

The surface of the tumor is smooth; the integument thin, and apparently much stretched. Numerous small veins run from within outwards, and from above downwards. The tumor is perfectly firm and unyielding. Its measurement, previously to being extirpated, was as follows—eight inches and a half, in an oblique manner, from the inner canthus of the eye, towards the external angle of the lower jaw; seven and a half inches from the septum narium towards the ear; and five and a half inches in a perpendicular direction, from the inferior lid to about the centre of the lower jaw. It preserves a well-defined edge, of tolerable thickness, occupying the anterior third of the malar bone, the superior maxillary and right nasal bones externally. The palate-bones are engaged in the disease. The alveolar process is turned upwards and outwards, and very much increased in thickness. The two incisors of the right upper jaw and the bicuspid are wanting, whereas all the teeth are complete in the opposite jaw. A large aperture, of long standing, is observed leading from the mouth into the antrum, through which he has been accustomed to keep a piece of linen plugged, to prevent the constant discharge of very offensive matter from the cavity which is large enough to admit the middle finger to pass into it. Speech and deglutition are much interfered with. The tumor projects about four inches, in the centre, from the ordinary surface of the face.

January, 1830. Dr. Tisdale extracted the first molar tooth, which afforded an immediate vent to some very offensive matter.

Operation, 22d March—in presence of Messrs. Parkins, Dalrymple, and others. The common carotid was first encompassed by a ligature of reserve. An incision, five inches long, was then made, from near the inner canthus of the eye to near the commissure of the mouth. Another was made from the ramus of the jaw, parallel to the teeth, below the parotid duct, to join the former incision. The triangular flap was dissected backwards, and then the remaining integument and muscles were dissected towards the left face, as far as the septum narium. The superior maxillary and the anterior part of the malar bones presented an appearance resembling the shell of a crab, expanded over the anterior surface of the tumor. Hey's saw readily penetrated the shell, and the removal of the tumor appears to have been boldly and dexterously performed. The description of the different steps, it would be totally useless to describe, as it would be quite impossible to comprehend it. In this respect, our operator falls into the error of most other vivisectors. Suffice it to say, that the anterior third of the malar bone, exclusive of the orbital plate—the superior maxillary bone, excepting its orbital portion—the right nasal—the right palate—and a small portion of the left—a piece of the *left* superior maxillary, were removed, principally by the knife. It was then astonishing to contemplate the great structural alteration in the palate, nasal, and maxillary bones. They were softer than cartilage. The labial and orbital arteries were tied, and the facial vein. The ligature of reserve was removed from the carotid, and the edges of the wound were brought together by suture and adhesion.

The tumor was the size of a child's head of six or seven month's old, and was of cartilaginous consistence, without any vestige of a cyst. There was a thimble-like cavity in the situation of the antrum of Highmore, lined by a smooth membrane. The after-treatment was judicious and successful. This formidable operation does great credit to Dr. Tuthill.

NEW REMEDY IN EPILEPSY.

We shall quote some extracts from a paper which we have met with in a recent American Journal,* relative to a remedy little, if at all known, in this country: viz.

"*On the Crusta Genu Equini (Sweat or Knee Scab, Mock or encircled Hoof Knees, Hangers, Dew Claws, Night Eyes, or Horse Crust,) in Epilepsy.* By JOHN P. METTAUER, M. D.

"The substance designated by the several applications at the head of this article, is furnished by the horse; four oval secreting surfaces, situated on the inner aspects of the extremities, near the knees, are the parts of the animal from which it is obtained. The secretion is poured out so gradually, and in such small quantities at a time, as not to be observed in its fluid, or even semi-fluid states. The crust is of variable color, as well as density; its exterior is always of a lighter appearance, and harder than the interior, which is dark and soft; it is of a lemellated and fibrous texture, and when broken, resembles dark, soft horn; its odor is very penetrating, diffusible, and peculiar; it is deciduous, and separates gradually two or three times during the year; when prematurely or forcibly removed, the surface from which it is taken sometimes bleeds a little, inflames, and becomes tender and sore."

"As a *medicinal agent*, the crust has been long known in this part of the country. How it found its way into use as a remedy, is not certainly ascertained. It is conjectured that the coincidence of the horse being observed to bite the crust, and to pass worms from the bowels soon after, suggested it as such, and the conjecture is by no means improbable, when it is remembered that this article was first employed as a vermifuge with that animal. The fætid odor of the crust, it would seem, might naturally have suggested the idea of its possessing remediate powers, and doubtless did indicate it as a nervine and antispasmodic, after it was supposed to possess vermifuge properties.

* The United States Medical and Surgical Journal, Oct. 1835.

We have long known and employed this substance as an antispasmodic; but the merit of introducing it into regular practice, is due to Dr. Joseph Mettauer (the writer's father), who employed it in epilepsy so early as 1782 or 1783. During the last twenty-five years we have enjoyed many and satisfactory opportunities of using the crust as a remedy in epileptic convulsions.

In collecting the crust for medical purposes, it is necessary to attend carefully to its loosening tendency from time to time, or it may fall off and be lost. It may be made to separate a little sooner by gently soliciting, and occasionally by firm compression with a bandage. This should be suffered to remain on after the period of desquamation is near at hand, to prevent the accidental loss of the crust. After it is obtained, it should always be dried a short time in the shade, and then it may be kept for use in a close jar, to prevent, as far as possible, the escape of its volatile properties."

"Two forms for administration are used—the powder and tincture. When the powder is to be used, it should always be freshly prepared, either by pounding and rubbing the dry crust in a mortar, or by grating it with a common nutmeg-grater; this last process will be found (generally) most convenient, as it enables the practitioner to reduce it, at once, to a very fine and equable powder, even if the crust is imperfectly dried.

The tincture is prepared by simply digesting the broken or powdered crust in diluted alcohol, or common brandy, exposed to a gentle heat for eight or ten days, in the proportions of one part of the former to four of the latter.

The doses of the powder vary from two to twenty grains; it may be given diffused in any liquid which the patient fancies. With young patients it is safest to begin with the minimum, and increase very gradually to the maximum doses. Should the disease yield before the largest doses are reached, no further augmentation need be made. When the tincture is employed, from ʒss. to ʒiss. are its extreme doses. Diluted with water and sugared, it may be given with very little difficulty to the youngest subjects, as it is tasteless, and in a great measure inodorous. In this form, also, the doses should be very gradually increased, to prevent, as far as possible, the danger of exciting the system too much, which might result from the menstrum, should the doses be suddenly augmented."

"With young subjects from six to eight years of age, two grains will, in a majority of cases, constitute the commencing dose. We have never used it with patients younger than six years, or older than thirty. Older patients, say from eight to twelve, or fifteen years of age, will bear four or five grains, or even larger doses in the commencement, and with such it may be more suddenly increased to the maximum doses, without gastric disturbances. The remedy rarely offends the stomach when the foregoing precautions are properly attended to; on the contrary, it seems rather to compose and tranquillize this organ. Three doses, in a majority of cases, are as many as will be required in the twenty-four hours. Should cases occur marked by convulsions of unusual violence, with frequent paroxysms, it may be given oftener. From many trials with this article, it has not been perceived that there is much diversity of effect when employed in large or medium doses with young subjects."

The author remarks that, in obstinate cases, the crust should be continued for more than a year before it is discarded. He does not prohibit the use of suitable remedies as auxiliaries, during its administration.

OVARIAN DROPSY ACCIDENTALLY CURED. Dr. Addison.

[Guy's Hospital Reports.]

A female, aged 44, the mother of one child, was received into Guy's Hospital on the 19th March, 1834. She had had ovarian dropsy for some years; but, nine days previous to entering hospital, she fell, and a pair of steps, on which she had been standing, fell across her abdomen. She immediately suffered excruciating pain—became sick and faint—and soon perceived that the fluid accumulation which had been circumscribed, was now diffused over the abdomen, rising to the diaphragm and obstructing respiration. She had then, no doubt, an attack of peritoneal inflammation, for which she was treated—but afterwards entered the hospital. Her abdomen was now distended with fluid, and very painful—pulse 98—urine copious—and she had passed blood by stool—she was bled, fomented, and took calomel and opium, under which treatment she improved. Her mouth became sore on the 22d, after which the fluid rapidly decreased. On the 5th April no fluctuation was perceptible. Still the remains of the cyst could be felt stretching across from one iliac fossa to the other. She had afterwards an attack of phlegmasia dolens, which was soon cured. She is now living as a servant in Cheapside, and can yet distinguish a small tumor in the left iliac region. She has had no return of the dropsical enlargement.

We fear that it would not be quite safe to imitate this accidental mode of curing ovarian dropsy.

PERFORATION OF THE STOMACH, OPENING OUTWARDLY; THE PATIENT LIVED FOR THREE YEARS.

Mad. G. aged 80 had, for the last 30 years of her life, been subject to repeated attacks of sharp, severe pain in the abdomen, which had caused her body to be bent forwards almost double. The functions of the stomach had been always more or less deranged, and frequently she had fits of vomiting of large quantities of glairy and bilious matter. The appetite however had been usually very good, and, at her advanced years, her strength was so preserved, that she was still able to walk about, and to attend to the economy of her small house.

In consequence of the habitual stoop or curvature of the body forwards, there was formed a permanent fold of the abdominal integuments, extending for about eight inches across the epigastric and hypochondriac regions. In June, 1832, the patient, being then 77 years of age, without having experienced any unusual pain or annoyance, observed, one morning, that the front of her chemise was quite wet; on removing it, a jet of clear water streamed out through a small aperture in the transverse fold just mentioned. Nearly two litres flowed out. An oozing continued for three days, and then it ceased spontaneously, and was not renewed. The abdominal pains, which had so long afflicted the patient, were much mitigated during several subsequent months; but they never entirely left her. For the following two years and a half, there were alternately periods of exacerbation and abatement; the intervals of ease gradually became longer, and, at length, her health seemed to be quite restored. In January, 1835, the abdominal pains returned, and, after continuing with greater or less severity for several days, the old perforation opened afresh, and a large quantity of clear fluid escaped. On the patient swallowing some port-wine and water, it flowed out almost as quickly as it reached the stomach, and the same was observed after "potage an vermicel" had been taken.

At this period Dr. Bineaux, the reporter of the case, visited the patient for the first time. The abdomen was free from pain and tenderness, except along the line of the transverse fold. There was no nausea, nor any other severe stomach distress. The perforation was of the size of an ordinary pea, rounded, its edges red, and it was situated in the epigastric region, rather on the left side, about two inches beneath the cartilages of the ribs. The surrounding parts were not hardened, swollen, nor otherwise diseased. This opening gave passage to any fluid the patient drank; and a quantity of gas also escaped. Occasionally, fæcal matters oozed out. The alvine and urinary discharges became greatly diminished in quantity, and the patient died on the 18th of the month. During Dr. B.'s attendance, the patient had not vomited once.

Dissection. The stomach contained a quantity of mucosity, and some semifluid aliment. The mucous membrane, throughout its greater extent, was healthy. Towards the pylorus, however, it was red, and its texture was considerably thickened. In the middle of the anterior surface of the organ, there was discovered a circular aperture, an inch and a half in diameter, having soft and smooth edges. The mucous surface here was but little discoloured. The aperture led into a cavity, from seven to eight lines in width; the sides of which were formed by celular tissue, and the base by the portion of the abdominal integuments, through which the external opening had been formed. This opening did not exceed in width four or five lines.

The preceding case affords a beautiful illustration of the preservative effects of adhesive inflammation, after injuries or lesions of the internal viscera.

MM. Gerard and Lainé have published, under the auspices of MM. Chaussier and Percy, several examples of spontaneous perforation of the stomach. In most of them, the perforation was the result of a scirrhus or other morbid degeneration of the coats of the stomach.—*Archives Générales.*

The extraordinary and highly instructive case of perforation of the stomach, from a gunshot wound, recorded by Dr. Beaumont, and described at great length in our Number for January last, may be re-perused with advantage after reading the preceding details. —Rev.

ON THE EMPLOYMENT OF SHEET-LEAD, AS AN APPLICATION TO WOUNDS AND ULCERS.

M. Reveillé Parisé informs us that, when he was with the French army, at the famous siege of Saragossa, in 1808—9, the supply of medical stores for the wounded had been altogether expended, and that he was obliged to have recourse to a variety of substitutes for lint, plaster, and other dressings. Under these circumstances, he happily thought of using thin sheets of lead. which had the double advantage of being easily procured (by beating out common musket-bullets), and of being easily kept clean. Fortunately, too, this novel dressing was found to promote the cicatrization of many wounds. The plates must be as thin as a sheet of writing-paper, and uniformly smooth, especially where they are applied to raw surfaces. It may be supposed that they are apt to become uneven and wrinkled, and that thus they must rather irritate the wound or ulcer; but this objection applies rather to their misuse than to their proper employment. If they are secured in their place by bandages, well put on, it will be found that the lead-dressings are as smooth and comfortable to the patient's feelings as lint or any plaster. But it is not our present intention so much to recommend them to the exclusion of the ordinary applications, as to suggest their use as a most convenient and economical substitute on certain occasions. The expence of hospitals for the mere article of lint is very great; and, in time of war, it is not very easy to maintain a constant supply of it. The quality too of lint, in the present day, is exceedingly variable. a large proportion being uneven, knotty, and, from being bleached by the use of chlorine, apt to be irritating to the tender surfaces of wounds. When the discharge from a sore is scanty, the lint dressing often adheres to the edges of the wound, and there is difficulty in removing it; and, when it is more profuse, the lint is apt to form, at one part, quite a bag of matter, which is thus prevented from an easy escape. However indispensable, therefore, lint may be on the whole in the practice of surgery, it cannot be

denied that it has its disadvantage, especially when the supply is not abundant, or the quality is not the very best.

The manufacture of this article has of late very sensibly diminished, in consequence of all the linen rags being eagerly bought up by the paper manufacturers, and also of cotton cloths having come so much more than formerly into general use; "le prejugé (adds our author) ridicule qui faisait regarder comme malsain de se servir de draps de coton, et d'envelopper les enfans dans les langes de cette substance disparait journellement." In consequence of the increased price of good lint, a variety of substitutes have been proposed. One of these is a fine sort of tow, prepared in a particular manner, and to which the name of "charpie vierge" has been given by the French surgeons; but the trials which have been made of this substance are quite unfavourable to its adoption. Should the lead plates be found by others to be as useful, as M. Parisé assures us they have been in his practice, he will have the merit of having introduced a very ingenious improvement into surgery. To prevent any misconception of his proposal, be it remembered that he recommends the use of the sheet-lead only to such solutions of surface as are "en voie de cicatrization," and not to recent or to spreading wounds. The ulcers to which the sheet-lead dressing is best suited, are those which are superficial and granulating, whose surfaces are covered with a layer of fibrino-purulent matter, and whose edges are red and even; in short, such as are healthy, and have a natural tendency to heal of themselves, if protected from all sources of external irritation. On the other hand, for ulcers which are deep, irregular, and painful, or of which the discharge is very profuse, we must have recourse to poultices, or other appropriate dressings, until the signs of incipient cicatrization make their appearance, and then the sheet-lead may be used with the best hopes of success. The large superficial wounds caused by some burns and vesicatories, especially in young children, are admirably suited to this mode of dressing. Most surgeons will acknowledge that these apparently simple sores have often baffled them most teasingly; when the ordinary applications seem to be useless or hurtful, recourse should be had immediately to the sheet-lead. It ought to be secured in its place by compresses and bandages, or by strips of adhesive plaster.

The softness and pliancy of the metal enable the surgeon to give the plate any shape he may wish, and to cut it as he would do a piece of paper,. It is perfectly innocuous, the protoxide of lead being well known, under the name of litharge, as a common application to raw surfaces. We do not, by this remark, mean to imply that the lead plate acts in any other manner, than as a means of mechanical defence and support.

M. P. has tried sheets of tin, silver, and gold, and he has found them all succeed nearly equally well, provided they be made perfectly smooth, and applied so evenly and uniformly, that no irritation is induced; but, in point of ductility, the lead is greatly superior to tin, and its cheapness recommends it before the others.

That greasy applications are positively injurious to some ulcers, will not be disputed by any surgeon. How often do we observe that mere abrasions of the skin, situated over superficial bones, as the tibia, are obstinate and most troublesome of cure, and that all the ordinary dressings seem to do rather harm than good. If we apply dry lint, or use poultices or lotions, in the former case, the sore is apt to be fretted by the lint adhering to it, and in the latter, the disposition to heal often appears to be interrupted. Under such circumstances, the use of the lead plate will be found to be at once most simple and efficacious.

A gentleman, while descending a staircase, wounded his heel against the sharp edge of one of the steps: the wound was small, and quite superficial, and instead of healing in the course of a day or two, as was expected, it remained open for several weeks, in spite, or perhaps rather in consequence, of a variety of ointments and plasters, which were successively tried. The patient annoyed that so trifling a wound baffled so much "doctoring," dressed it of his own accord with dry lint; but this would not do; the lint stuck to the edges of the wound, and confined the discharge, and the sore became deeper and larger than ever. M. Parisé's advice was now taken. A piece of smooth and very thin sheet-lead was laid on the wound, and kept in its place by two or three slips of plaster. Under this simple dressing, repeated for several days, the wound very speedily healed.

Every surgeon must have experienced occasionally a most troublesome delay in curing ulcers, or indeed simple abrasions of the skin over the olecranon, spine of the tibia, malleoli, &c. As a general rule, we should dissuade the use of greasy or adhesive plasters, or even of dry, or wetted lint in such cases; and advise the patient merely to cover the injured part with a piece of sheet-lead, or of any other equally simple and innocuous application, such as gold-beater's skin, and leave the cure altogether to Nature.

One advantage of the sheet-lead over the usual applications, which we have not alluded, is, that there is less necessity to renew the dressings so frequently, as when lint is used; for, the wound is kept much cooler, and the tendency of the discharge in hot weather to become acrid and offensive, is very sensibly diminished. There is one form of superficial ulceration, which is very often most difficult and obstinate of cure; we allude to herpetic and impetiginous sores. Now, although we do not mean to assert that the sheet-lead is adapted to every sore of this description, or that it has any healing efficacy "*per se*," we do not hesitate to recommend its use, in preference to the ordinary applications. Ointments, and all greasy or irritating plasters, very generally disagree with these sores; and, on the whole, simple astringent washes appear to be most

serviceable. The chief objection to the use of these is, that the linen, which has been wetted and applied, is apt to become occasionally dry, and to adhere to the raw surface, and thus to irritate it and prevent it from healing. The sheet-lead prevents the rapid evaporation, and thus keeps the sore in a moist state during the intervals of the wet application.

The sores which are apt to occur on œdematous limbs is another tribe which is often equally intractable, and which very often appears to be rather aggravated than relieved by the ordinary dressings. M. P. has had recourse to the use of mildly stimulating washes, and the sheet-lead with decided advantage, in a number of such cases.—Baron ——, advanced in years, had for some time been labouring under chronic hepatitis, which had at length induced ascites and general anasarca.

The distended skin of the legs became red, tender, and excoriated, in consequence of the friction of the bed-clothes, and of the bandages with which the limbs were swathed. The excoriations were at some places so deep that they might be considered rather as ulcers than as mere abrasions of the skin. The finest charpie, the mildest washes and ointments, were tried; but every means appeared only to aggravate the distress. M. Parisé being now summoned to his assistance, recommended that the limb should be kept in the horizontal position, the raw and ulcerated surfaces be covered with very thin sheet-lead, and this to be secured by a few turns of a linen roller. The comfort derived from this simple treatment was speedy and decided, and the sores began gradually to cicatrise and heal up. During the remainder of the Baron's life, there were frequent returns of his dropsical complaint, and at these times, the limbs always suffered in the above-mentioned manner. The same local treatment was adopted, and invariably with success.

As an example of the effects of the sheet-lead dressing in the ulcerated surfaces which are apt to follow the application of blisters in some constitutions, and especially in young children, we quote the following case.

M. P. was requested to visit a child, on whose arm a blister had been applied for an obstinate chronic bronchitis. The raw surface had never shewn any disposition to heal; it had become ulcerated, and had extended itself in all directions, so that nearly the whole arm, from the shoulder to the elbow, was excoriated and inflamed. The child's health had suffered much from the constant pain, and irritation, and want of sleep. The dressings, which had been used, had been either utterly useless, or positively injurious. M. P. recommended that the arm be covered with a piece of thin sheet-lead, and no other application be used. In the course of a very few days, the whole of the raw surface was completely healed.

The sheet-lead is well adapted to most varicose ulcers. As a matter of course, regular and even compression of the limb must be employed at the same time. Professor Marjolin has recommended this treatment for such sores, in the article, Ulcere, Dict. de Medecine. In conclusion, we may confidently recommend the use of sheet-lead as a dressing to all ulcers, which are superficial, and from which the purulent discharge is not very profuse; more especially when they have a tendency to cicatrization, and when, therefore, it is the principal object of a surgeon to defend them from any irritation which may interrupt the healing process.—Even when the suppuration is abundant, some practitioners have had recourse to the sheet-lead, with the simple modification of pricking a number of holes through the thin plates, for the purpose of allowing part of the matter to ooze out. The economy, cleanliness, and convenience of the remedy, as well as the avoidance of all irritation, itching and other distress, which are so frequently induced by the common dressings in certain ulcers, are such obvious advantages of the sheet-lead used as we have explained in the preceding observations, that they cannot fail to recommend it strongly to the attention of the practical surgeon.—We have only further to state, that the sheets or plates ought to be made of different thickness, and that they must be always perfectly smooth, even, and of such consistence, that they may be readily cut into any size and shape with a pair of ordinary scissors.—*Bulletin General de Therapeutique.*

When it is the wish of a surgeon to apply to a wound or excoriation an adhesive plaster, which is devoid of all acrimony, he will find none more useful than one made by washing a piece of oiled silk with a strong solution of isinglass in alcohol. The solution is promoted by immersing the vessel containing it in hot water. The common adhesive plaster, and the black court-plaster, often teaze and irritate a raw surface. The isinglass plaster requires to be slightly moistened before it is applied. Mr. Liston has the merit, we believe, of having first recommend it.—*Med. Chir. Rev.*

ON THE TREATMENT OF ERECTILE TUMORS.

By Professor Lallemand, of Montpelier.

Case 1. *Erectile Tumor of the Gums and Lower Jaw.—Cure by Excision.*

A boy, nine years of age, had a fungous tumor, situated on the gum of the lower jaw, extending from the right incisor teeth round to the first left molar tooth; it was indolent, of a purplish colour, mamillated, and felt soft and somewhat fluctuating to the finger.—The slightest pressure caused it to become smaller and paler, but on with-drawing the pressure it immediately recovered its former size and colour. The lower lip opposite to the centre of the tumor was of a violet red hue, and was traversed with numerous veins,

much enlarged, as if they were varicose. Various attempts to remove the disease by excision and cauterisation had been ineffectually made during the preceding two years: the tumor had always quickly sprouted up again. M. Lallemand intended at first to have removed the entire substance of the lower jaw, where the disease was seated; but finding that the base of the bone was quite healthy, he was anxious to save as much as he could, in order that the continuity of the jaw might not be broken.

The lip being dissected back from the jaw, he removed every portion of the tumor with the knife; then applying the crown of the trephine, he endeavoured to saw off the anterior alveolar plate of the upper two-thirds of the bone; but this he could not easily effect, in consequence of the instrument coming into contact with the new teeth, which had not yet been protruded. After removing as much as he could with the "le trepan exfoliatif," he finished this part of the operation with the gouge and mallet. The actual cautery was then freely applied to every suspected point. The wounds of the soft part were brought and kept together by means of twisted sutures, and by bandages. The result was very fortunate. Union had taken place at the end of a week. Ten days later, a sequestrum of bone exfoliated, and in the course of another week, the cure seemed to be complete. In course of time, the new teeth, which had been exposed by the trephine, continued to advance; the canine exhibited the prints of the instrument.

M. Lallemand strongly urges on the attention of surgeons the propriety of endeavouring to save as much of the lower jaw in such operations, as may be done with safety. It is not common that the entire thickness of its substance is diseased; the mischief is generally confined to the anterior alveolar lamella.

CASE 2.—*Erectile Tumor on the Upper Lip and the Edges of the Nostril. Cure by numerous Incisions, and by the use of the twisted Suture.*

A child, five years of age, had been born with a red spot, of the size of a pea, on the centre of the upper lip. It had extended gradually, and had involved first the septum narium, and then the inner surface of the nostrils.

On his admission into the Hospital St. Eloi at Montpelier, the upper lip was red, and so much swollen, that it hung down over the lower one; the slightest excitement caused it to become distended and to throb strongly, and in other respects it exhibited all the characters of an erectile tumor.

To treat this case by compression, was impracticable; excision of the disease would have caused a most frightful deformity; and the chances of success, by tying the trunk of the labial, or of the external carotid arteries, were very unsatisfactory. M. Lallemand tried a new method. He excised from the middle of the fungus a triangular segment, (from eight to ten lines in breadth at its base, and pointing to the septum narium,) by means of sharp scissors. The blood streamed out with violence from a multitude of divided vessels, and the lip quickly recovered its normal size and colour. The edges of the wound were laid hold of, and compressed by assistants, and M. L. proceeded to unite them by means of a twisted suture; four needles having been inserted at some distance from the wound, and made to traverse the whole extent of the diseased part. The operation was finished, as in cases of harelip. The hæmorrhage was completely arrested.

Considerable febrile excitement and local distress came on, but in the course of two days, these symptoms subsided. On the fourth day, the two uppermost needles were withdrawn, but the coils of thread were not removed, and, on the following day, the other two needles were withdrawn. There was a trifling oozing of blood and matter from the small wounds, caused by the needles. At the end of the third week the threads separated, and exposed a firm and healthy cicatrix, extending from the centre of the lip to the septum narium.

Having obtained from this operation the result which he had hoped for, M. Lallemand repeated it on that part of the swelling situated between the cicatrix and the right commissure of the lips. In passing the needles through, it was found that there was considerably more resistance on the inner (*i. e.* nearest the cicatrix) than on the outer side. This circumstance indicated that the structure of the part had become agglutinated and hardened, in consequence of the inflammation induced by the previous operation.

A similar operation was subsequently performed on the left side, between the cicatrix and the left commissure of the lips. The results were quite as fortunate as on the former occasions. The lip, in course of time, recovered its normal size, and it no longer hung down over the lower one; all the parts involved in the operations were converted into "une espece de fibro-cartilage." The septum narium and the mucous lining of the nostrils remained, however, still tumefied, and M. Lallemand therefore, determined to pass several needles through the septum, for the purpose of exciting an agglutinative inflammation. In doing this, he found that the median cicatrix was much more firm and resisting than even the cartilage of the septum.

The ultimate success of this case was highly gratifying to the surgeon, who, by a simple and judicious practice, had saved his patient from the suffering, as well as the danger, of the more formidable operation of excising the tumor.

CASE 3.—*Successful Treatment by Incision and the Twisted Suture.*

A child, three months and a half old, was brought to M. Lallemand for advice respecting an erectile tumor, situated on the left cheek; it was about two inches long, and one and a half broad, and it projected nearly half an inch above the adjacent surface. It

became larger, and of a more purple hue whenever the infant cried, and exhibited then quite the appearance of a large strawberry. This tumor had increased very rapidly from the birth, at which period it was only about a quarter of an inch in diameter, and not at all prominent. The impracticability of exercising a continued compression, and the risk attending an attempt to cut the diseased part out, induced M. Lallemand to repeat the operation which had succeeded so well in the preceding case. He made an incision through the entire thickness of the swelling, and in the line of its longest diameter ; he then immediately united the edges of the wound with four needles, and secured these by numerous coils of thread, as in the operation for harelip. On the following day, the parts which were exposed were very painful, much distended, and of a deep purple colour. On the fifth day, the needles were withdrawn. At the end of a fortnight, a tolerably firm cicatrix was formed along the lines of the incision and of the punctures, and the rest of the swelling had much less of the purple hue which it had exhibited before. In four months, all that remained of this erectile tumor was a few red scattered points round the edges of the once diseased part. The skin of the cicatrix was still thin and shining, as after a burn.

Case 4.—*Erectile Tumor on the Shoulder—Cure by the Twisted Suture, without Incision.*

The child was born with a red-coloured spot, of about an inch in diameter, on the skin covering the left scapula. It rapidly increased, so that, in the course of three months, it measured at least three inches one way, and two another, and it had become considerably prominent above the surface. Its surface was mamillated, and of the colour of a ripe strawberry. Graduated compression had been tried for several weeks, but with no benefit. Afraid of the excessive hæmorrhage which might follow the excision of this tumor, M. Lallemand decided to adopt a treatment somewhat similar to what had succeeded so well in other cases. Without making an incision through the diseased part, he merely passed twelve needles through its lower part, and " couvrit l'espace qui les separait par des circonvolutions nombreuses defil ciré." Three days afterwards, he performed a similar operation on the upper part of the swelling. In this manner, he attacked successively the whole of its circumference, always leaving the needles in for about eight days or so, until an agglutinative inflammation had been fairly excited.

By the end of four weeks, all the circumference of the tumor, being either " affaissée," or in a state of suppuration, M. Lallemand intended to repeat the operations on its central part ; but, most fortunately, a process of inflammation had already commenced there, and, in the course of a fortnight, the entire extent of the diseased substance was converted into a flat and uniform cicatrix. The treatment of this case lasted for nearly three months. During that period, 120 needles had been successively passed through different points of the tumor, and yet not one spoonful of blood had been lost, nor had the general health of the patient suffered for more than three or four days in all.

The case now detailed is interesting in an especial degree, from the circumstance of the cure having been effected by acupuncturation alone, without the previous step of incising, or partially excising the tumor, as had been practised in the two cases immediately preceding.

M. L. states that he now considers the incision to have been unnecessary in the third case ; and that, in a similar example, he should recommend the use of the needles alone. The removal of the triangular portion of integuments practised in the second case, he also deems to have been uncalled for—a simple incision through the diseased structure would have answered as well.

The use of the ligatures may be necessary, and indeed ought to be adopted, whenever we intend to incise an erectile tumor ; but, when we do not, there is, perhaps, not much occasion for them. M. L. alludes to the utility of frequent applications of the nitrate of silver to the minute wounds left after the withdrawal of the needles.—*Archiv. Générales.*

EXTRACTION OF A FRAGMENT OF CATHETER FROM THE BLADDER, THROUGH THE URETHRA.

The following case is creditable in the highest degree to Mr. Tyrrell. It well deserves to be recorded.

Case. A man, aged 40, who had for some years suffered from stricture, introduced into his bladder a catheter, which was so worn and weak at the curve as to have been soldered there. The instrument met with some obstruction at the bulb, and broke at the weakened part. The fragment could not be withdrawn, and the man set out from Reigate to St. Thomas's Hospital, walking a considerable part of the distance. When admitted, he did not suffer very much. Mr. Tyrrell was sent for, and the following is his own account of what he found and did.

"On passing a sound, I discovered the piece of catheter lodged at the funduo of the bladder, transversely ; its extremities being embraced by that viscus, so as to be held with some firmness. I dislodged it by passing the end of the sound beyond it, and drawing it forwards, moved it to the lower part of the bladder behind the prostate gland ; where by sounding I ascertained that its position was still transverse. From the freedom and extent to which I could move

the sound, I conlcuded that the bladder contained several ounees of urine, and that it was sufficiently distended to afford good opportunity for conducting the plan I had decided to adopt for extracting the piece of catheter.

The patient was placed on a bed' in a half-sitting posture, with his thighs semiflexed; the sound was withdrawn, and I then introduced one of Weiss's instruments for extracting small calculi, which was nearly straight, and had a strong spring. By careful examination with it, I discovered that the extremity of the foreign body towards the patient's right side was free, and that the other was covered with a fold of the bladder. After several unsuccessful attempts, I succeeded in seizing the free extremity with the instrument, and, by withdrawing it very cautiously, I brought the piece of catheter into the urethra, when the forceps slipped from it. I immediately introduced my finger into the rectum, for the purpose of compressing the urethra between the foreign body and the bladder, so as to prevent any retrogade movement of the former. This being secured, I again introduced the forceps into the urethra; and in the first attempt caught the piece of catheter, and drew it out.

The portion of catheter removed, measured exactly three inches in length, and was of the size of No. 10 of Weiss's gage.

The examination and operation together occupied about twenty minutes."

A dose of opium and one of castor oil were all that were required. Three days after his application at the hospital he was dismissed well.

This case is deserving in a high degree of the attention of our surgical readers. As Mr. Tyrrell observes, there is probably no other instance on record where a portion of catheter has been thus extracted from the bladder. At all events surgeons, remembering this case, should hesitate before they have recourse to the lateral operation of lithotomy, for the removal of bodies of this description.

OBSERVATIONS AND RESEARCHES ON A NEW METHOD OF CURING CANCER.

By Alexander Ure, M. D., M.R.C.S.
Late House-Surgeon to the Royal Infirmary at Glasgow.

(Continued from page 580.)

The four following formulæ are given by Dr. Canquoin for preparing the phagedenic paste. The first three possess strength in proportion to the numbers 3, 2, 1; and the fourth, which is endowed with a peculiar property, will form hereafter the subject of special notice.

I. Chloride of zinc one part, wheat-flour two parts.

II. Chloride of zinc one part, wheat-flour three parts.

III. Chloride of zinc one part, wheat-flour four parts.

IV. Chloride of zinc one part, chloride of antimony half a part, wheat-flour two parts and a half.

Twenty-four to thirty drops of water are to be added for each ounce of chloride.

The preparation of the phagedenic paste require the utmost care and attention; hence, to procure it properly the following instructions must be scrupulously followed. The chloride of zinc, reduced to power, is to be mixed, as quickly as possible, on a slab, with the given quantity of flour. One half of the mixture is immediately to receive its proportion of water, and to be worked up progressively with a spatula, until it forms a homogeneous paste like honey. This paste is to be brought to the desired stiffness by trituration with the remainder of the dry ingredients, well beat for a few seconds, and then rolled out into cakes or wafers, of from half a line to four lines in thickness.

The quantity of water must be proportionally augmented, according to the increased amount of flour in the second and third formulæ.

The antimonial paste, No. IV., is to be moulded into a crayon shape; because, as it preserves constantly the consistence of soft wax, a suitable thickness can always be given to it, so as to adapt it to the form of certain cancerous tumors, presenting inequalities of surface.

As, however, the flour employed in the above formulæ consists of starch gluten, and vegetable albumen, it will produce a complex combination with the chloride in the phagedenic paste, which may blunt or interfere with its erosive action; or possibly undergo some fermentative change when applied to an ill-conditioned ulcer, and the viscidity of the compound give rise to more or less difficulty in the manipulation. It therefore occurred to me, that if some inert inorganic powder were substituted for the vegetable matter, capable of absorbing and retaining a sufficient quantity of moisture to form a paste, which should be a simple mechanical admixture, it would then be possible to turn to account the full escharotic powers of the chloride. The anhydrous sulphate of lime, in impalpable powder, will be found to realize the above conditions. Mixed with the chloride

of zinc, in the proportions already indicated, a paste like putty may be obtained, after these have been well incorporated together with a few drops of water.*

The paste so prepared is perfectly plastic. In its composition the calcareous sulphate seems to perform the part of a porous medium, which allows the escharotic gradually to exude into the morbid texture. In proportion as it is abandoned by its deliquescent ingredient it acquires a firmer consistence, until at length it becomes concrete, and constitutes an impervious case for the eschar. I have already employed it in practice, and have found its corrosive properties to act effectually and beneficially in this form.

Manner of using the Phagedenic Paste.

Where the integuments are sound, the epidermis should be removed by means of a blister; and on the following day one or other of the above preparations, corresponding to the thickness of tissue to be destroyed, is to be applied to the cutis of the diseased part. The sensibility of the surface must also be considered; for should it possess but a feeble degree of vitality, the most powerful form is to be preferred.

The paste No. I., four lines thick, applied during four days, is capable of producing an eschar of from one and a half to two inches in depth. The same paste, three lines thick applied during three days, will furnish an eschar of one inch at least in depth; the same compound, two lines thick, will in two days determine an eschar of not less than half an inch. The paste No. 1., of one line, will yield, in twenty-four hours, an eschar of three lines. Finally, the paste No. I., of half a line, will produce, in the same time, an eschar of at least one line.

These changes will manifest themselves with the above precision only on tissues endowed with a considerable share of sensibility, and of which the consistence is nearly normal. In the gristly (lardacé), almost fibro-cartilaginous degeneration, about one-third is to be deducted from the thickness of the eschar above mentioned.

No. II. is employed in cases of cancerous ulceration and superficial carcinoma, which are attended with much pain.

No. III. is eligible in every species of cancerous affection, occurring in nervous subjects who are incapable of supporting the violent pain which the preceding more concentrated escharotics might occasion. It is so much less productive of suffering, as it is slower in its action.

Lastly, the antimonial paste is best adapted to nodulated cancerous tumors, for which a more decided escharotic action is required.

These preparations, applied over a denuded surface, excite, in a few minutes, a feeling of heat, which, ere long, rises to a burning heat; which unpleasant symptoms may be relieved by an opiate enema.

When the operation of the paste is complete, it may be gently taken off, and the eschar covered with an emollient poultice until its separation, which usually happens as formerly stated, from the eighth to the twelfth day, according to the thickness of the layer employed. The application is to be repeated again and again, till the whole morbid structure is removed; after which the surface is to be treated with simple digestive ointment; or, in case of acute cancer, with cataplasms, until the cure is finished.

In certain modifications of carcinomatous tumors that are voluminous and prominent, Canquoin, instead of applying the caustic on the anterior segment, surrounds the base with a ring of paste two lines broad and four deep.

Should the carcinoma present a central depression, its destruction may be accomplished by using the phagedenic paste in a spiral form.

The chloride of zinc will probably form a valuable means of curing incipient cancerous ulcers of the uterus. These, in their early stage, may be looked upon as purely local affections, since Bayle has demonstrated, by numerous dissections, that the tissues of the organ are perfectly sound at the distance of two or three lines above the solution of continuity. In some instances it is reported that they have been healed by the topical use of the acidulated nitrate of mercury, as also by the caustic potash: but as both have been objected to in practice, the former from its tendency to spread over the healthy parts and excite inflammation, the latter because it is too uncertain in its effects, corroding too profoundly, and giving rise to fatal inflammation, amputation of the cervix has come to be regarded, by many, as the sole alternative of eradicating the disease. Now, the chloride of zinc, liable to none of the inconveniences that have been imputed to these other caustics, employed in its most concentrated form, will furnish its characteristic dry, easily definable eschar, destroying the morbid parts, and leaving behind a healthy surface, which will rapidly cicatrize: thus saving the patient the necessity of submiting to an oper-

* Special care must be taken to prepare a pure sulphate, by calcining the crystallized gypsum at a gentle heat in an oven; for the Paris-plaster of the shops is often sophisticated with chalk or whitening, which would immediately decompose the metallic chloride, and impair its qualities in a greater or less degree.

ation which, although unaccompanied by much pain, is yet most repugnant to her feelings.

Cauterization with the chloride must likewise prove advantageous in carcinomatous affections of the tongue, lips, and of the rectum, where arsenic, from its powerful poisonous qualities, is totally precluded.

The following ointment is recommended for effecting the destruction of extensive scirrhous surfaces, previously flattened by long-continued methodical compression, as also of certain dense scirrhi. This has been technically named, the resolvent pomade.

Take of oxygenated pomade, prepared by triturating eight parts of boiling axunge with one of nitric acid, one ounce ; melt this by a gentle heat, and add to it three drachms of the acid subdeuto-nitrate of mercury. Increase the heat a little, till the nitric acid becomes decomposed, so as to peroxygenate the pomade, and bring the salt into intimate union with it. The ointment, when well prepared, is very hard, and of an orange-yellow colour.

Dr. Canquoin describes the case of a woman affected with a scirrhous of one half of the face, who had been previously treated for it, but without benefit ; and she seemed doomed to become, ere long, a victim to the frightful malady. However, thirty-five days' application of the above ointment sufficed to work a cure, without the slightest trace being left.

In two or three months time, and even less, a softening and suppuration have been procured of indolent scirrhous tumors, of a violet-red hue, by the following topical application, called the maturative ointment :—

Take of the acetic infusion of the Bark of Spurge Laurel, ℥ iss. ; of Molasses, ℥ iss. ; Olive Oil, ℥ j. ; Ox Bile, ℥ij. Mix together, and reduce, by the aid of heat, to the consistence of an ointment. Withdraw the heat, and add,

Unguent. Basilic. ℥ iss. ; Cerati fusci*, ℥iss.

Mix the whole well together, and incorporate with each ounce a drachm of the subdeuto-nitrate of mercury.

Inflamed cancerous tubercles, superficially situated, have been destroyed by applying to them, for a few days, a solution containing five or six grains of cyanide of potassium to one ounce of distilled water.

With the external means above enumerated a happy result may be anticipated in the generality of cases. When there prevails a cachectic state, or confirmed cancerous diathesis, or when the carcinoma is voluminous, and has formed a multitude of firm adhesions, or is of long standing, and has occasioned extensive ravages, no reasonable hopes of recovery can be looked for from any mode of treatment.

In every instance of voluminous tumor, removal by the knife must still continue to maintain the preference, as offering a more speedy, and consequently less painful method of extirpation. Indeed, in thick, firmly-attached swellings, the scalpel ought to commence the operation, and the caustic be made to complete the cure. In order to eradicate fungous growths, it is indispensable that they be first of all snipped away, so as to bring the escharotic into direct contact with the roots of the disease.

The secondary indurations, that make their appearance in the vicinity of parts that have been cured, depend on diathesis, and may be attributed to the circumstance of the phagedenic application having been confined to too circumscribed a space.

Without seeking to draw a minute parallel between the comparative merits of the extirpation of cancer by surgical operation and by the caustics in question, suffice it to say, that the latter never create any serious inconvenience, while an amputation of the breast may not always have the most favourable issue. Besides, the knife can in no wise modify the subjacent tissues, it can only eradicate the evil when not deep seated ; and hence disease frequently returns after the most dexterously-performed operations.

The internal treatment is of essential importance. That proposed by Dr. Canquoin consists in the administration of small doses of dilute sulphuric and nitric acids, conjoined with some drops of Pearson's Solution*. Of the latter six drops are given at first ; the dose is gradually increased up to seventy-two in the course of twenty-four hours.

Where the menstruation is at fault, a syrup containing iron or iodine, or perhaps both combined, is to be substituted for the above.

Much benefit has been derived in cancerous affections from the use of the mineral waters of Helbrun in Bavaria, the active ingredients of which are iodide and bromide of sodium. It is probable that the mineral spring of Ashby-de-la-Zouch, which abounds in bromide, might prove an excellent remedy, used either alone or conjoined with an iodic preparation.

Dr. Canquoin has annexed several cases in corroboration of the efficacy of his plan of treatment, from which we subjoin the following abstract :—

To be continued.

* Or Onguent de la Mère, prepared with litharge, axunge, butter, and mutton suet, of each 25 parts, yellow wax 18, and black pitch 8.

* Pearson's Solution is made by dissolving a grain of arseniate of soda in an ounce of distilled water.

PROCEEDINGS OF MEDICAL SOCIETIES IN INDIA AND MISCELLANEA.

MEDICAL AND PHYSICAL SOCIETY'S MEETING.

Saturday evening, November 5, 1836.

J. Langstaff, Esq., 1st member, Medical Board, in the chair.

Present: Dr. MacLeod, Mr. Mercer, Mr. Egerton, Dr. Jackson, Dr. O'Shaughnessy, Mr. Parsons, Dr. Hunter, Dr. McClelland, Mr. O'Shaughnessy, Mr. Dodgson, Mr. Brett, Mr. Ledlie, Dr. S. Wood, Mr. Corbyn.

S. H. Batson, Esq., Assistant-Surgeon, proposed at the last meeting, was balloted for and elected a member of the Society.

A letter from A. Smith, Esq., was read, stating that Dr. H. R. Bond requested to have his subscription discontinued as he was going to Europe.

The following communications were presented:—

A case of absorption of the Mamma following the use of Iodine, by J. Drummond, Esq., Surgeon to the Right Hon'ble the Governor-General.

The result of some experience of lithotrity by F. H. Brett, Esq., Surgeon to the Body Guard.

Two cases of lithotomy, by T. R. Mackinnon, Esq., of Tirhoot.

An account of an Epidemic fever prevailing at Moradabad, by T. Spencer, Esq., presented by the Medical Board.

Translation of the examination of a native who lately visited Pallee, giving an account of the disease which is raging there and some letters upon the subject from Superintending Surgeon Panton, also presented by the Medical Board.

The following papers were then read and discussed:—

Mr. Drummond's case of Mammary absorption.

Case of extensive disease of the rectum, heart and colon by Dr. D. Stewart.

Some remarks upon sloughing ulcers by Mr. Chapman of Purneah.

Mr. Drummond prefaced his paper by remarking, that in laying this case before the Society he did not wish to detract in any way from the merits of Iodine, so far from it, he considered it a most valuable medicine; but the present was an instance amongst some others in which its employment had been followed by disagreeable consequences. The patient was a young lady who had for some time observed an enlargement and feeling of weight in the body of the left mamma. She allowed it to continue undisturbed for upwards of a year before she consulted a medical man. When Mr. Drummond first saw it, the tumor was about the size of a hen's egg, placed between the nipple and axilla, and firmly attached to the gland; its surface was smooth, and there was little or no pain in the part. The patient's general health was good. Various remedies were employed for some months without success, and when it was resolved to use Iodine and the Ung. Iodine was rubbed on the part night and morning, ere long the swelling apparently began to diminish, but a closer examination shewed that it was the substance of the mammary gland which had wasted, and not the tumor; in a short time the breast became a flacced pendulous bag of skin, without gland or fatty matter within it. The catamenia stopped for three months and the general health was somewhat affected. The medicine was of course immediately suspended, and by degrees the patient recovered her health, but the breast remained in the same state: six months afterwards the lady married, and was delivered in due time of a son, but no improvement took place in the breast.

The native account, of the Pallee disease stated, that it begins like a fever, with cold and shivering, followed by great heat of body and delirium; on the 2d day swellings appear in the groin and in the neck, and under the ears. The disease goes on increasing till the 3d day, when the patient either dies or recovers. Some die from the violence of the fever before the swellings appear. At first the disease was seen only among the cotton printers, who are mussulmans; it then attacked the rest of the inhabitants, with the exception of the basket makers, coblers and oil men. The deaths at one time amounted to upwards of 100 per diem. This native assigns the same ridiculous cause to the disease which has been stated in the newspapers, viz. the curse of an insulted Faqueer. He goes on to say that a great many people have fled to Joudpore

and other towns and villages of Marwar. As many as 100 carts daily departed from Pallee; and business of every kind was at a stand still. The town formerly contained 12,000 inhabitants, but 3,000 only are now left. It has appeared also at Soojit, a village 10 kos from Pallee, and some of those who fled thither from the latter place died. Some of the neighbouring Takoors forbid the inhabitants of the infected district from entering their territories, whilst the Maha Rajah has permitted them to dwell wherever they please in his country. All the sanitary measures adopted by the people consist in the propitiation of the enraged gods by poojahs and ceremonies. Mr. Panton's last letter (of the 12th October) states, that Dr. Maclean of Beawar has received further accounts from Pallee, by which he is induced to believe that the disease has altered its character and now differs from the prevailing fever of the country only in being more severe in its character, but the mortality among those who remain in the town (the greater part having fled) is very great; moreover animals of all kinds, birds and even fishes are said to be dying in every direction.

Mr. Chapman attributes the great prevalence of sloughing ulcers in the jail under his care, to the neglect and ill usage of the prisoners while employed at a distance from the station, under the sole management of the native guards, combined with the unhealthiness of the district in which they were employed, inducing in these unfortunate people such a cachectic state, that the slightest scratch or graze from any cause leads to mortification of the part and phagedenic ulceration.

He speaks also in strong terms of the foulness and contaminated atmosphere of the jail hospitals, and the difficulty of preserving amongst the sick prisoners the slightest attention to cleanliness; all which circumstances necessarily contributing to increase the unhealthiness of those who are imprisoned. The author describes the ulcer as beginning usually by a mere abrasion of skin produced by the friction of the irons, followed by a slight ulcer, with an unhealthy aspect, and discharging a foul ichor, the neighbouring skin as yet remaining healthy. The sore then increases in depth, and extends its circumference, the surrounding integuments becoming hot, swollen and glossy, attended by severe pain, the skin hot and dry, tongue foul, and covered with a thick coat. Thirst and a jaundiced aspect of countenance. Finally the surface of the ulcers bleed from various parts, the feverish and painful symptoms subside, and a state of mental and corporeal collapse immediately succeed. Gangrene now advances, destroying in its progress muscles, tendons, blood-vessels, &c., to the very bone. To this state many were reduced in the course of a few days. The number of cases admitted into hospital from 1st of July to 1st December were 164, of which 64 were extreme cases; 2 only of these terminated fatally.

The disease had usually advanced considerably before the patients were brought to Dr. Chapman's notice, and he had seldom an opportunity of seeing them before ulceration had fairly commenced. In this stage, after cleaning them, caustic was freely applied, and over this a poultice of meal and charcoal. The use of the latter, the author strongly recommends: Ointments, he has usually found hurtful. At the same time, calomel in small quantity, with opium and antimonials were exhibited at night, followed in the morning by a draught of gentian, compound tincture of senna, and two or three drachms of Epsom salts: this treatment being pursued until the bad symptoms declined. If the ulcer became indolent, blue pill and opium were given so as to touch the mouth slightly. At the same time concentrated nitric acid was applied to the sore. The diet also was improved—fish, soup, and meat, given to the patients. Sulphate of copper wash was found highly beneficial, when the sore began to put on a healthy aspect. The appearance of hœmorrhage is always to be dreaded, and in an old subject is the certain forerunner of death. Nitric acid, says Dr. Chapman, is alone to be relied on in this case, and for arresting the progress of the sloughing ulcer. The author speaks very highly of the employment of Fowler's solution of arsenic, given in doses of six to twelve drops twice daily. He says, it is most valuable in inducing a healthy action, while the ulcers preserve a gangrenous tendency, he considers it far superior to quinine and brandy, or any other tonic stimulants. In these cases it requires to be used with care, however, least it produce pain in the stomach, restlessness and swellings of the gums and *salivation*, an effect which sometimes follows its employment.

The subject of Dr. Stewart's case was a European of pale complexion and scrophulous appearance at 28, subject for some months to bowel complaint. On admission he sought relief from piles, which were of recent formation. These were relieved by puncturing them separately, and discharging coagula in various stages of organization by which he was considered to be cured. The patient had, however, drawn attention for some days to a dull pain in the right

side, with difficulty of breathing, a slight cough, without expectoration, a hurried pulse and a hot dry skin. Auscultation and percussion indicated no disease of the lungs and the cough was referred to the stomach and liver. At the same time there was great irritability of stomach, fluid food was instantly rejected. No pain was caused by pressure on the epigastre, or along the ribs. The stools were watery and slimy, urine scanty, voided with pain. The treatment consisted of repeated application of leeches, (eight or ten,) twice a day mercurial inunction blisters, blue pill, and gentle purgatives. On the eighth day, after the removal of the piles, he had a severe rigor followed by a hot fit, and a similar, though less severe, attack, came on the next night, but they were attributed by the patient to a touch of an old ague. In spite of the remedies used, the patient did not improve, his nights were restless, a hectic flush spread over his countenance, there were frequent slight rigors, a deep scald pain in the right side shooting towards the back, white tongue and depressed spirits.

The urinary symptoms became at this time so severe, that suspicion of calculus in the bladder was entertained; but this was found to be an erroneous impression. Finally, acute dysentery came on, the limbs became dropsical and the patient died. Doctor Stewart remarks, that if the piles had been of long standing or frequently bleeding the disease might perhaps have been attributed to a suppression of that discharge; but they were quite recent and should be considered rather as a part of the general chain of symptoms. He observes also, that the strumous diathesis of the patient precluded the full employment of mercury in the case. Upon dissection the lungs were found healthy, but the pleara contained several ounces of serum. The heart was smaller than natural, and presented a semi-transparent appearance, produced by a yellowish fatty or gelatinous looking matter contained in the cellular membrane. This substance was particularly remarkable about the apex of the right ventricle, and at the base of the organ on examination afterwards this substance was found to be neither fat nor gelatine. Within the right auricle was found more of the same formation; having however, more the appearance of membrane. The mescentery was studded with tubercles resembling those usually found in the lungs. The internal surface of the stomach was covered with a glairy secretion, and beneath it were found several bright red patches. The small intestines cœcum, and colon were healthy, but the rectum was one mass of disease, in which all its coats participated. The walls were thickened, lymph effused into the cellular tissue, the mucus membrane in the highest degree of vascular engorgement, covered with a coating of coagulable lymph, and beset with numerous ulcers; one of which had perforated the intestine. The liver was slightly enlarged on its anterior surface smooth and glossy, but natural in structure. In the under surface of the right lobe, an abscess was found, the walls of which were two lines in thickness and containing considerable quantity of matter. The rest of the viscera were healthy.

Dr. Stewart observes upon the appearances in the heart, that pathologists generally consider that sanguineous concretions occasionally form within the cavities of that organ, and he quotes, the authority of Lacnee and Audral upon the subject. From the remarks of the latter he concludes, that the concretion found in the above case, was produced by a morbid condition of the blood itself. Upon the subject of the liver abscess he notices the peculiar thickness of the walls and the perfect healthiness of the surrounding parts, together with the apparent healthiness of its function, although it was more than probable, that the disease had existed for more than three months.

The account of the dissection in this case was drawn up by Mr. R. O'Shaughnessy.

Mr. R. O'Shaughnessy expressed his regret at not seeing Dr. D. Stewart at the meeting, who he thought attached too much importance to the polypus found in the heart. He, Mr. O'Shaughnessy, thought the substance alluded to, was sometimes seen in the v esicle of a blister instead of the ordinary serous contents, an instance of which he recollected to have seen in an old emaciated lady who was blistered for an injury of the arm formed after death or during the last moments of life, and in support of his opinion he mentioned that Dr. Hope in his work on Diseases of the Heart describes the polypus formed after death as a substance of a semitransparent jelly like appearance found loose and unattached and generally at the right side of the heart, as in the present instance. Mr. O'Shaughnessy then commented upon the nature of the substance, and said that it was similar to that semitransparent matter which is observed on the external surface of the heart.

Dr. O'Shaughnessy said, with reference to the case before the society, one more unique he had never witnessed. The substance resembling gelatine, was, he believed, coagulated fibrine frequently found after death. There was no trace of organization in it or vascularity of any kind. It was however remarkable that so great morbid change could go on without any apparent symptom of disease. Dr. O'Shaughnessy, while upon

his legs would advert to Mr. Drummond's paper. He considered the result he had described to be a rare exception to the use of Iodine. He had attended St. Louis Hospital where there were 500 patients of Dr. Lugol's and he had never observed a similar effect from the use of Iodine as that alluded to by Mr. Drummond. Dr. Lugol had an extensive practise among a population of 4000 people, and he, Dr. O'Shaughnessy, had heard that physician declare that he had not witnessed a single instance of such diminution from Iodine. Dr. MacClelland said that there were numerous cases recorded in the transactions of the society wherein the mamma and testes had been diminished by the use of Iodine.

MEDICAL AND PHYSICAL SOCIETY OF BOMBAY.

Proceedings from May 15th to June 15th, 1836.

Members Elected.

Corresponding.

J. Graham, Esq. Bombay, J. S. Law, Esq. Civil Service, Bombay.

Communications Presented.

1. A letter from the Chief Secretary to Government presenting to the Society, in the name of the Honorable the Court of Directors, two copies of a Catalogue of stars in the Southern Hemisphere by Lieutenant Johnson, of the St. Helena Artillery.

2. A letter from the Secretary of the Medical and Physical Society of Calcutta, acknowledging the receipt of the Society's Regulations, and expressing in the name of the Calcutta Society an interest in the prosperity of the Institution, and a confident anticipation that a spirit of friendship and cordiality will ever unite the two bodies.

A copy of the transactions of the Medical and Physical Society of Calcutta is presented for acceptance.

3. Medical Topography of Sattara, illustrated by a sketch of its localities in the year 1828, by J. Bird, Esq.

4. Extract from Superintending Surgeon Henderson's Report on the Jails of the Southern Deccan Division, for the year 1835, presented by the Medical Board.

5. Two cases of urinary calculi passed by the urethra, presented by James Boyd, Esq., Civil Surgeon, Tannah.

Abstracts.

1. THE EXTRACT OF A LETTER FROM THE ACTING COLLECTOR OF AHMEDABAD, CONTAINS A REPORT OF THE EXTENT TO WHICH FEVER PREVAILED IN THE ZILLAH, DURING THE OFFICIAL YEAR 1834—35, AND AN ILLUSTRATION IN THE GREAT MORTALITY, OF THE SEVERITY OF ITS TYPE.

The number of deaths in eight Pergunnahs is respectively stated giving a total of 37. 035, and the number of cattle which died during the same period is said to have amounted to 143. 036. In the recollection of the oldest inhabitants disease to this extent had never before occurred. Locusts made their appearance but their ravages were not very destructive.

Dr. Hennen, in his account of the Medical Topography of the island of Cephalonia makes the following statement.

* "It is worthy of remark," as Mr. Muir observes, "that although diseases among the cattle are looked upon, as they doubtless are, as a great calamity, yet the inhabitants have a consolation in the generally received opinion that the ensuing summer and autumn will be uncommonly healthy for themselves, as it is believed that sickness of the inhabitants and diseases of the cattle, as it were, metastate with each other. This if true is a curious circumstance and would lead to the conclusion that late springs had some connexion with the fever of the country, for it is observed, that animals suffer most in early springs and vice versa."

2. Mr. Bird's communication embraces a description of the position of the town, fort and cantonment of Sattara, of the general aspect of the surrounding country with the nature of its soil and agricultural produce.

Population of the town and the rate of mortality are shortly considered, the geological, and mineralogical features with the leading phenomena of climate are then described, and the paper terminates with a sketch of the prevailing diseases, and an appendix shewing the result of experiments of a chemical nature on the water of several wells at the station.

3. THE EXTRACT FROM SUPERINTENDING SURGEON HENDERSON'S REPORT RELATES TO THE JAILS AT DHARWAR, AND RUTNAGHERRY.

The immunity of the prisoners in the former from dracunculus compared with the

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* Hennan's Medical Topography, &c. Page 278.

surrounding inhabitants is stated and attributed to the superior quality of the water with which the Jail is supplied.

The decrease in the prevalence of scurvy in the Jail at Rutnagherry is reported, and this improvement in the health of the prisoners is attributed to the supply of better water and the abandonment of wells which were considered impure.

4. THE SUBJECT OF MR. BOYDS' FIRST CASE.

A Subedar of the Tannah Rangers had been liable for a period of three years to occasional severe nephritic affections accompanied with urine presenting a gravelly deposit.—In 1834, after a more than usually severe attack, a calculus weighing 4 grains was voided by the urethra, since then under the frequent use of alkalies and occasional laxatives there has been exemption from any return of the disease.

The second case occurred in a villager who was brought to the Civil Hospital, suffering from retention of urine which on examination was found to be caused by a calculus impacted near the extremity of the urethra, and of such size as mechanically to cause considerable enlargement. The calculus was removed by incision, and the urine drawn off by the catheter.

The patient stated, that about a year and a half before the present attack he had first felt a small round body at the site from which the calculus had been extracted, that at first it caused no inconvenience, but that gradually increasing in size, the stream of urine diminished and finally became obstructed. Nor did it appear from the statement that the patient had been previously subject to calculus affections or had enjoyed other than good health. Both calculi were forwarded with the paper; that of the first case consisted of uric acid. That of case second weighed nineteen grains but had been broken in extraction. Structure concentric lamellœ, colour white, chemical composition phosphate of lime.

5. CASE OF DYSENTERY WITH SLOUGHING AND DISCHARGE OF A PORTION OF THE INTESTINAL CANAL.

J. T. æt : 40 admited into the European General Hospital, April 22nd, 1835, stated that for six or seven days he had been suffering from bowel complaint with frequent and often ineffectual calls to evacuate the bowels : There was tenderness across the abdomen on pressure with slight heat of skin and frequency of pulse. On the 23rd the tenesmus continued and towards evening an increase of pain of abdomen was relieved by an anodyne enema and warm bath. On the 24th it is reported, that during the night there had been six copious, feculent evacuations without tenesmus, and during the day four evacuations scanty and mucus. On the 25th five evacuations feculent and bilious, and "at 8 P. M. there was expelled *per anum* a portion of intestine about seven inches in length. Says he was not sensible of its presence in the rectum, but first perceived it when partially expelled and retained at one end by the sphincter muscle, the gut appears to be in a putrid state."

The patient continued in Hospital with relaxed and irregular bowels till the the 9th May, when he left much improved in health. —He was the carpenter of a ship and had made twelve voyages to India. Health in general good, and with the exception of one attack of cholera had never suffered from serious disease—there was tendency to constipation but to no considerable extent, and there never had been suffering from any other affection of the bowels.

Remarks.

This is one of an order of cases which there is reason to believe are not in general rightly understood. Bampfield observes* "In one instance I have seen a tough circular or cylindrical mortified membrane gradually discharged from the rectum to which it adhered ; it was hollow and evidently formed of a part of the intestinal canal ; a portion was protruded daily, and if pulled for the purpose of extraction it felt firmly attached to the rectum and gave so much pain in its site, that I was obliged to desist and from hence it was concluded that it was formed of the inner coats of the rectum itself. The membrane was partly black and partly of a dark ash colour ; was infinitely more tenacious than coagulable lymph ; was somewhat elastic, and bore considerable force in extension, without breaking ; and when cut away with the scissors, was not easily divided but felt tough to the edges of the instrument, as if I had been cutting mortified integument. This case of Hawley left no doubt in my mind, that *the inner coat* of the intestine is occasionally voided in dysentery and effectually removed the impression that the denials of others and their suggested doubts on the subject had made."

This opinon has been repeated by Ballingall and other subsequent writers and is in all probability still very generally admitted ; there seems however just reason to doubt its accuracy for it is difficult to comprehend, by what pathological process an extensive tu-

* A practical treatise on tropical dysentery by R. W. Bampfield, Page 16.

bular portion of the mucous lining of the intestinal canal can be separated entire from the subjacent tunics. When in diffuse inflammation of the subcutaneous cellular tissue in unhealthy subjects, the cellular connections are separated by sanious infiltrations, &c. then portions of skin or other tissue, dependent on such cellular connections for their nutritive supply die and slough off, so in some forms of dysentery portions of the mucous coat become separated and slough off in membranous shreds.

The difficulty is to understand how the separation of the mucous coat should take place for an extent of several inches of the whole circumference of the intestinal canal and still maintain its integrity and be dejected in a tubular form.

The process of infiltration into the submucous cellular tissue with consequent separation, death, and sloughing of the mucous coat will explain the origin of the membranous shreds dejected in some forms of dysentery, but it is probable that in other forms of the disease, such are attributable to a plastic effusion from the mucous coat itself. Bampfield was aware of this and says in a note "It is very possible that this apparent membrane may frequently be a discharged layer of coagulable lymph formed in the intestines as it is in the trachea in croup."

This opinion is by no means peculiar to the author just quoted, and the following case is in confirmation of its accuracy.

* "Private William T. æt: 29 admitted into the Hospital of the Bombay European Regiment, October 28th 1829, ill with fever; there was much headache with full and frequent pulse.—He became drowsy, the skin assumed a yellow tint and he sunk and died November 1st—On the 29th he shrunk on the abdomen being pressed, but there was no purging except from the use of medicines.

Inspection.—Vascularity of the membranes of the brain and effusion of patches of lymph, the greater part of the mucous surface of the large intestines was covered with a dark red effusion, in some places loosely attached to the membrane and having the appearance of red currant jelly,—in other places the effusion was firmer in consistence and could be peeled from the mucous tunic in an almost membranous form. In the cœcum the effusion was evidently of longer standing, from its firmer consistence and from its being connected with the subajacent mucous tissue through the medium of what appeared to be small capillary vessels; the mucous membrane underneath the effusion was vascular"—

The probability is that the case treated in the European General Hospital and others of a similar nature are instances of intussusception of a portion of the intestinal canal with consequent strangulation, sloughing, and discharge.

Cases of this lesion are by no means very rare. In the Edinburgh Medical and Surgical Journal for October 1835, thirty five cases are related by Dr. W. Thomson. In the greater number (as was to be looked for) the symptoms were those of ileus, but in one they were those of dysentery and the case in every respect was very similar to that now under consideration.

In the following passage Mr. Twining records his experience on this point and gives a reason why intus-susception in the course of dysentery ought not to be unlooked for.

* "The ulcerations within the great intestines are generally most numerous, and most extensive at the cœcum, and first portion of colon; the valula ileo-colicy has in some cases been found quite destroyed by ulceration, and the lower end of the ilcum has formed an intus-susception into the cœcum; and becoming there strangulated has caused death."

"In a few more fortunate instances of intus-susception when the lower portion of ileum descends into the cœcum, and forms a circumscribed tumour in that region attended with suppression of stools and rapid pulse; which prove the obstruction of the canal at that part; the strangulated portion sloughs off, after adhesive union of adjacent parts has taken place, so as to maintain the continuity of the canal and then stools are again passed together with masses of slough or entire portions of the intestinal tube and the patient slowly recovers. In eight years I can mention five cases of this sort, two of which have recovered."

It remains then for future enquirers to direct minute attention to this question in the pathology of dysentery and to test the accuracy of the remarks which have now been made.

APPENDIX.

Whilst the present circular was being printed, the Edinburgh Medical and Surgical Journal for April 1836, was received. This number contains an appendix to Dr. Thomson's paper already alluded to.—The concluding sentences of the Appendix bear pointedly on the question which has been discussed in the present circular; they are as follows.

* Edinburgh Medical and Surgical Journal, April 1832, Page 324

* Clinical illustrations, &c. by W. Twining, 1st Edition, Page 8.

" With respect to the discharge of a portion of intestine during the progress of dysentery, I quoted a case of this kind, in my former communication, from Mr. Twining's clinical illustrations of the diseases of Bengal, and a passage in which the author mentions having seen five cases of this sort in eight years. I referred also to some preparations of portions of intestine passed *per anum* contained in the museum of the Army Medical Department at Chatham, which, from their having been transmitted from India, I was inclined to suppose, might also have been the consequences of dysentery. Of one of these, I find a delineation has been published in the second fasciculus of the Lithographic drawings from the preparations in that establishment, Plate VII. Fig. 9. From the account given in the present communication, of case 11, it would appear that it ought to have been considered as a dysenteric case; and to these we may add the case of M. M. Sebire and Gautier (37) and one of the preparations in Meckel's museum, (p. 380). These cases would seem to show, that in the morbidly increased peristaltic action of the intestinal tube, which occurs in dysentery, invagination is very liable to occur."

" But in admitting the occurence of this accident in cases of dysentery, particularly when no *post mortem* examination has taken place it is necessary to be on our guard against two sources of error. 1*st*. Portions of intestine, not comprising the whole thickness of the bowel, may be detached in the progress of this disease from the inner surface, and if a separation of this kind extends over the whole circumference of the tube, a careless observer may fail to notice in the portion discharged, the absence of the exterior coat or coats; but 2*d*. during the progress of dysentery, it not unfrequently happens that a layer of unorganizable coagulable lymph is deposited on the inner surface of the intestinal canal, and subsequently discharged by stool, resembling those layers which occasionally form on the inner surface of the larynx trachea, and bronchi. If such layers assume a tubular form, the incautious may very readily mistake them for portions of the intestinal canal. These are occurrences, however, which it is my intention to make the subject of future communications."

C. Morehead,
Secretary.

Bombay, June 1836. *Med. & Phys. Society.*

THE RUMOUR OF THE DAY IS THAT THE BOON TO THE MEDICAL DEPARTMENT,

similar to that granted to the army as touching pensions according to length of service instead of rank, has been rejected by the Board of Control, on the grounds that the condition of the medical department is already too good. We trust our articles, developing that condition in its true light, will be read simultaneously by the Home authorities with the memorial for the boon which has been dispatched.

We have no apprehension as to the result: truth must prevail. A rigid examination of the state of the medical service in India will show the condition of its members, as depressed and disheartening. We have already fully proved that, that system is the most economical, which provides an efficient medical department to the state, by which humanity is subserved, and confidence secured in the minds of its subjects, who are strangers and sojourners in a foreign land.

INTENDED RETIREMENTS FROM THE HON'BLE COMPANY'S SERVICE.

We are informed on very good authority that John Tytler, Esq. has applied to the Hon'ble Court of Directors for the pension of superintending surgeon and to retire from the service. It is said that D. Harding, and H. Cooper, Esqs'. are candidates for retirement on their annuities, when offered by the fund. Walter Venour, Esq. superintending surgeon, will be the first known annuitant this year; he has sent in his resignation and embarks on the *Repulse*.

PROGRESS OF THE FUND.—DR. WOODBURN.

The new subscribers now amount to upwards of 90. A letter has appeared in the *Agra Ukbar*, from D. Woodburn, Esq. shewing his reasons for maintaing the expediency of suspending the operations of the fund for a time, in justisce to our professional brother we think it right to publish his letter.

T. E. DEMPSTER, ESQ.

Secretary to the Meeting of Medical Officers held at Agra on the 20*th September* 1836.

Dear Sir,—In acknowledging the receipt of your letter of the 3rd Instant, forwarding

a report of the proceedings at the meeting held by the Medical Officers of Agra on the 20th ultimo,, I beg to tender my sincere acknowledgments for the promptitude with which my communication has been noticed and discussed as well as for the trouble taken in drawing up a statement of the comparative advantages of the fund and boon.

Had I not been strongly impressed with the infinite superiority of the boon over the fund, I should never have taken so decided a part in recommending the temporary suspension of the fund: and I think, it is due to myself and those officers who attended the Agra meeting, that I should lay before them my reasons for agitating a question which, if I may judge from the result of the Agra meeting, has already been decided by a great portion of the service against the views I held and still entertain.

In my remarks I shall follow the same division of the subject adopted by the Agra committee.

The first question brought forward by the committee is "Would a scale of pensions similar to that granted to the officers of the army be more advantageous to us than our retiring fund; and if we were permitted to exchange the one for the other, ought we to do so?" This the committe decide in the negative.

In discussing the question I have thought it advisable, in the first instance, to make out from the register a tabular statement of all those who could retire upon the present retiring regulations in conjunction with the fund, and of those who could retire on the boon; dividing the two schemes into their respective classes. The statement is made from the register corrected up to 1st January 1836.—I have taken the annuity at £ 150—as the annuitant himself pays for the other half. In reckoning the period of service, I have supposed that every one who could retire has taken advantage of the three years furlough; e. g. Officers of 20 years standing for 17 years service in the country. You will find the statement annexed, and I beg leave in this place to call your attention to it.

The statement shows that were the ten highest on the list to retire upon the fund, their joint pensions with the annuities would amount to £ 3225 or rather £ 3095; while, were they retiring on the boon, their pensions would only be £ 2699; giving an *apparent* balance in favour of the fund. I proceed to prove that the balance is purely accidental, and that it is utterly impossible that the average annual amount of six retirements, even taking them regularly from the top of the list, can be nearly so much as £ 3095—there being only three members in the Board; if they all serve 5 years for the £700 pension, the average number of retirements annually without calculating lapses cannot exceed..... . 6

Or if they all serve only two years for the £ 500 pension..... 1 . 5

take half of two rates as the average for the Board..... 1.05

1.05—Supg. Surgeons being required for the Board.

7.95—Only of the 9 can be taken in calculating the retirements of this grade.

If Supg. Surgns. all remain 5 years for the £365 pensions, the yearly average of retirements cannot exceed..... 1.59

If they all remain only two years for the £300 the yearly average of retirements cannot exceed,.. .. 3.975

Take half of the two rates as the average for the grade,.... .... 2.7825

Average number of retirements that can be obtained from all the superior grades without taking lapses into consideration,.. .... 3.8325

The average age of the 12 Surgeons at the head of the list appears to be 56—and the value of a life at that age is 8.509—I therefore take 1.41 as the average annual number of casualties in the higher grades—with this correction the greatest number who can retire annually from the Medical Board and S. S. list cannot exceed... .... 3.382

There must necessarily remain out of the 6 annuities given by the fund 2.618—which can only be claimed by Surgeons retiring on £192 pension,..... .. .. 2.618

Annuities accounted for..... 6

Keeping the above calculation in view, I now proceed to show the greatest amount of pensions that can annually be drawn by the present retiring regulation in conjunction with the fund.

I. Medical Board—1st class £700—pension and £150 annuity can only be claimed as above shewn by 3 total amount of pension,..... ..... £255

II. Medl. Board 2nd class £500 and £150 ·75 do. 487·5

III. Supg. Surgn. 1st class £365 and £150 ·795 do. 409·425

IV. Ditto 2nd class £300 and £150 1·9875 do. 893.375

Total of superior grades 3.8325 do. 2045.3

or making corrections for..... casualties 3.382 do. 1804.88

V. Surgeons £192 and ..... £150..... 2.618 do. 895.356

Total retirements.. 6 pensions £2700.236

Though it is *possible* that the yearly average of 6 retirements, by the present regulations with the aid of the fund, might amount to £2700, such a result could never be expected in practice; for every day that a member of one of the superior grades remains in his appointment after he has completed one of the specified terms of service, unless he waits for the higher pension, deducts from

the number (3.382) who can by possibility retire from the superior grades. It would be perfectly absurd to take a maximum as an average rate; and if the fund can give six annuities, more than three of them must be given to Surgeons whose pension is only £192. Taking three retirements, however, for the superior grades, the average amount of their pensions cannot exceed £1601, and one of these three must of necessity be of the lowest grade of Superintending Surgeons, whose pension and annuity amount to £450. The utmost therefore that can be derived from the fund are two pensions averaging £572, one of 450, and three of 342, all other Surgeons who can retire must retire on £192.

The same data cannot well be applied in discussing, the advantages of the boon, for with it the number is happily not limited to six. I shall attempt however to show what provision the boon offers for six retirements to the six individuals at the head of the list.

Medl. Bd. 1st class	£700	pension, retirements .3	£210
Ditto. 2d class	£500	pens. .75 do.	ditto, 375
Yearly average retirements,		1 do.	585

It is unnecessary taking the Superintending Surgeons pensions into calculation; for, were the boon granted, every Surgeon would be entitled to the £365 pension long before he arrived at that grade.

On the 1st January 1836, there were four Surgeons, besides the one entered for the higher pension in the Board, who had served thirty-three years, and on looking back to former registers, I find four to be under the average number of Surgeons of that length of service, in 1828, there were ten. Taking four, however, as the average number who could claim the £456, pension 456 by 4= £1820

There are between 20 and 30, who could claim the £365 pensions—take one of these to complete six, 365

Total of six retirements by the boon £2770

Supposing that the boon was limited to six retirements, it is more advantageous than the fund for the six at the top of the list, and as we descend, the boon pensions nearly double those of the fund.

The total amount of pensions at the disposal of the service on the 1st January 1836, by the present retiring regulations was £13,233

Supposing the fund had been in full operation, and every member of the service subscribing at the present rates, and that it could have given six annuities of £150—150 by 6= 900

Total,..... 14,133

There were sixty individuals who could claim pensions, and the average claimable by each is therefore..... £235.5

The total amount of pensions at the disposal of the same sixty individuals had the boon been in effect would have been,.. .. £18,463
and the average claimable by each.... £307.7

Besides these sixty, the boon offers twenty more pensions of £192 each; the following is therefore a more correct parallel between the fund and boon.

Amount of pensions placed at the disposal of the service by the present regulations and fund....	£14,133
Ditto. ditto, by the boon	22,303
Balance in favour of the boon	£8,170

To put it in a more striking light, the present regulations give as above.	13,233
Instead of six say the fund can give sixty retirements of £150 each 150 by 6=	9,000
Total, (£70 less than the boon :)..	22,233

Will the fund be able in our day if ever to give six annuities yearly? By the report of the quarterly meeting of the Committee of Management this day received, I perceive that only 140 members have yet signed the fund deed. Now the receipts at the present rate of subscriptions for the whole service *i. e.* for 349 individuals should amount, exclusive of interest, to Sicca Rupees 89,688 or £8968 yearly. 140 Subscribers therefore can only give £3597. More subscribers may come in, but till the present establishment die out, the fund will not be in full operation. The value of an annuity of £150 at the age of 50 is £1412.5. These 140 Subscribers consequently cannot give more than two and a half annuities, even at that age; and the whole service subscribing at the present rates could not give six annuities of £150 to members of 45 years of age.

You will observe that in my calculations I have not hitherto taken into consideration what the service has to pay to the fund, but have argued as if the fund was wholly, as the boon is, supported by the Govt. As we have to pay £8968, yearly for the fund, and nothing for the boon, we must deduct this amount from the pensions placed at our disposal by the fund and of retiring regulations, in order to find out the relative value of the two plans for retirements.

Amount pensions and fund annuities as above, ...	14133
Deduct subscriptions to fund ..	8968
	5165
The fund is to the boon as 5165, is to 22,303 or as 1 is to 4; or to take it in the same light I have done already, amount of pensions placed at our disposal by the retiring regs. and the fund for which we pay £8968.....	14133
Amount of pensions placed at our disposal by the boon, and for which we pay nothing....	22303

To put them on an equal footing in this respect, suppose we give the boon also £8968, ... 8968 31271

I certainly did not expect such very decided results in favour of the boon when I began this examination. Some error may have crept in towards the end—It must be an enormous one however that would reduce the boon to the same level with the fund. The question is altogether one of arithmetic; and, till my calculations are proved to be erroneous, it is impossible that I can concur in the decision come to by the Agra Committee on the respective merits of the boon and the fund.

Having entered so much into detail upon the first and most important question, the merits of the two schemes, I shall briefly notice the three remaining questions.

The second one is, "Is it probable that the Court of Directors will allow us to make such an exchange?" The Committee think not, because it would put us on different footing from the Medical Services at Madras and Bombay—we have never yet been on the same footing with them—they had funds when we had nothing of the kind—they had retirements given or assisted by Government when we had none—would our fund be on an equal footing with the Madras fund? Almost every Member of the Madras service is a subscriber, and it is possible that, like your own Committee, they prefer their fund to the boon. We cannot be on an equality both with our Military contemporaries in Bengal and our Medical brethren at Madras. Our strongest claim is to be placed on an equality with the Military establishment of which we are a part *i. e.* with that of our own presidency.

Question 3rd. "Although we retain our fund have we not a reasonable hope of still getting a revised and amended scale of retiring pensions?" It would in my opinion be unreasonable to entertain any such hopes. The meeting at Agra have declared the fund to be the greater boon of the two, and "it is presumed the Court of Directors admit the justice of our request to be placed upon an equality with our Military contemporaries with respect to retiring pensions." How therefore can we except a double boon? We have every reason to believe that Government consider the fund *equal* and we know that it was given *in lieu* of the boon. Is it likely that the opinion of the Government will be altered, by hearing that a Committee of the men most interested concurred in the opinion that the fund was not only equal to the boon but the greater boon of the two?

My answer to the 4th question is. If Government thinks the fund equal to the boon, great difficulties are removed by suspending the operation of the fund. If fund and boon are equal there could be no obstacle to our having a choice. If they are not equal we should have an opportunity of pointing out the inequality.

Sherghotty, 19th Oct. 1836. D. WOODBURN.

Statement shewing the number of individuals in the different classes who could have Retired on the 1st January, 1836, *upon the present Retiring Regulations aided by the Fund in full operation and those who could have retired upon the boon.*

Classes provided for by the present Retiring Regulations and available for the Fund annuity.	No. available.	Amount of pension of ch. class including annuities of £150.
I. Member of the Medl. Bd. who have served 5 years and can retire on £700 Pension	0	850
II. Members of the Board who have served 2 years and can retire on £500 Pension	1	650
III. Surgeons who have served 5 years and can retire on £365 Pension	5	515
N. B. two of the five are in the Board and ought not to be taken into calculation as this virtually abolishes the first two classes.		
IV. Supg. Surgeons who have served 2 years and can retire on £300 Pension,	5	450
V. Surgeons who have served 20 years and can retire on £192	49	342
Total number who could have retired	60	
The greatest amount obtainable on 1st January 1836 for 6 Pensions with the additions of 6 annuities of £150 each	6	3225
Ditto for the 2d Series of 6	6	1692
Ditto ditto 3d ditto	6	1152
Ditto ditto 4th ditto	6	1152
Ditto ditto 5th ditto	6	1152
30 more Pensions available of £192 each	30	5760
	60	14,133

Classes provided for by the boon.	No. available.	Amount of pension by the boon.
I. Members of the Medical Board who have served 5 years and can retire on £700 Pension	0	700
II. Members of the Board who have served 2 years and can retire on £500 pension	1	500
III. Surgeons who have served 33 years including 3 for furlough Cols. Pension	4	456

IV. Surgeons who have served 28 years including 3 for furlough Lieut. Cols. Pension.....	23	365
V. Surgeons who have served 23 years including 3 for furlough, Majors Pension.....	16	292
VI. Surgeons who have served 18 years including 3 for furlough, Captains Pension.....	36	192
Total number who could have retired.....	80	
The greatest amount obtainable for 6 Pensions on the 1st January 1836, by the boon.....	6	2689
Ditto, for the 2d series of 6..	6	2190
Ditto.....3d ditto.....	6	2190
Ditto.....4th ditto.....	6	2190
Ditto.....5th ditto.....	6	2044
Ditto.....6th ditto.....	6	1752
Ditto.....7th ditto.....	6	1752
Ditto.....8th ditto.....	6	1352
32 more Pensions available of £192	32	6144
	80	22,303

D. WOODBURN.

HOME ESTABLISHMENT.—THE EXAMINING PHYSICIAN.

There is a report which we hope is without foundation that the situation of the examining physician held by Dr. Chambers has beenvacated and given to Dr. Hume, physician to the Duke of Wellington. Without presuming to question the rights of patronage, we would observe that such an appointment would have been better filled by a Company's medical officer experienced in the nature of tropical climate and disease ; but according to the usage of the present day, such knowledge would appear to be of secondary consideration.

Selections from the medical department in India for situations of such high responsibility and importance, would have been a mark of respect to which the members of the service from their acknowledged talents, zeal, and practical knowledge, have powerful claims at the hands of the sovereigns of the country.

THE UPPER ORPHAN SCHOOL.

It will be in the remembrance of most of our readers that, at the presidency, upwards of twenty subscribers to the Upper Orphan School circulated six propositions for approval so long ago as January last. The object of these was to obtain a revision of some of the regulations of this excellent institution ; and to convene an annual meeting of the subscribers at the Town Hall, for the purpose of examining accounts, orders, minutes, and correspondence of the General Management, and and to adopt and confirm, if approved, their report. We learn that most of these propositions have been adopted by a large majority of subscribers in the Mofussil, and it is now for them to enquire of the General Management their reasons for not publishing the result nor carrying the votes of subscribers into execution.

MR. PREVITE'S CEYLON MOSS.

It was sometime ago brought to the notice of the readers of this journal that the Ceylon Moss would be of great value in the sick chamber, in cases wherein jelly is prescribed. We have now the satisfaction of stating that it has been tried by most of the practitioners at the presidency; and the expectations regarding its value as an article in sick diet found invaluable.

We should here mention that the public are indebted to Mr. Previte for bringing the value of Ceylon Moss to notice. When that gentleman was at Ceylon in 1823, he found the natives in the habit of dissolving and making it into a species of glue or size, it then occurred to him that it would probably make an excellent jelly for table use, on trial he was not disappointed, and from that period he has been in the habit of using it for that purpose. As Mr. Previte is about to return to Europe, we take this opportunity of stating that, the public have been indebted to his ingenuity and zeal in preparing pulverized milk, bread, and other important articles of diet for invalids proceeding on long voyages.

EXTERNAL APPLICATION OF COCOANUT OIL AS A CURE FOR CHOLERA.

Mr. Tweedie of Hazrupore, Jessore, has communicated to the medical board a mode by which he says he has cured cholera. It is simply, that of having the whole of the patients body thoroughly rubbed with cocoanut oil for at least half an hour, and afterwards to be well covered with warm clothing, the result of which treatment was a profuse perspiration and immediate relief.

AN APPEAL REGARDING GOVERNMENT POST OFFICE REGULATIONS.

The Editor of the *Madras Herald* has liberally stood forward to advocate the cause of our journal by shewing the danger of the opposition set against it by the Medical and Physical Society of Calcutta. He gives additional evidence of the obstructions to the success of scientific periodicals in India. We have already brought to the notice of the Supreme Government that our Madras brethren have been deprived of the advantage to be obtained by the diffusion of medical science through the means of our journal, we trust the observations of our contemporary will be of service in the common cause of science.

It is well known that the number of professional readers in India is so limited, that it is scarcely possible for a medical work of any description to do more than pay the cost of publication—the gentleman, who undertakes the duty of editing such a work, must therefore be principally, if not entirely, actuated by the love of science: and we should say that it is the duty of his professional brethren to assist and encourage him, and by their contributions to render his work still more worthy of extensive circulation, instead of establishing an opposition Journal to divide that support which in the three Presidencies is scarcely enough to maintain the Medical publications already in existence.

By the way it is the fashion of the day to talk of the great anxiety of the Supreme and Local Governments for the spread of useful knowledge—colleges are established,—committees of public instruction are appointed, and there is the appearance of much pains being taken "to diffuse the Arts and Sciences and the knowledge of Europe over the land"—but here we have a work, *The India Journal of Medical and Physical Science*, which is established expressly for the purpose of promulgating the most interesting facts that man whilst liable to bodily infirmities can know, subject to so heavy a tax for postage as almost to amount to a prohibition; no less than two Rupees two Annas being demanded in Madras, in addition to the postage which is paid in Calcutta.

SUBORDINATE MEDICAL DEPARTMENT.

It appears that the public servants in the above department are impressed with feelings of uneasiness on the recent advancement of Mr. Simon to the rank of apothecary. They conceive it to be a dangerous encroachment in the system of promotion which has existed in that department. As a public Journalist, it behoves us to look as much to their interests as to that of those in more exalted situations, and we are indeed as much concerned for the welfare of the one as of the other. By his present promotion, Mr. Simon is put over the heads of many who, it is presumed, have assisduously acquired considerable practical knowledge in the European Hospitals of the King's and Company's regiments, and are therefore Mr. Simon's superiors, in the very great essential looked for in the members of the subordinate medical department. Further had these individuals shared in the opportunities of attending the lectures by which Mr. Simon's merits have been developed, there is no reason to doubt they would have added to their practice his theory. The prize has therefore been bestowed on Mr. Simon without having been run for. Thus the most junior and inexperienced is put over the heads of the great majority, and placed on an equality with the seniors of his department. It may be asked, what would be thought by our own brethren were a distinguished student in Guy's Hospital similarly promoted; because of his merit in his class, and made supernumerary surgeon on this establishment?

We are told that there are great defects in the subordinate medical department; and that even the home authorities have ordered enquiries to be instituted into its efficiency, and that numerous reports have been made to

the Medical Board on the subject. These defects however will not be removed by an act of the kind now under contemplation, but rather by arrangements which will excite emulation in the body as a whole, on the principle by which merit and service are duly considered and rewarded. While such is our opinion of Mr. Simons advancement over the heads of his seniors it is impossible not to recognize in it the earnest wish of a liberal Government to express its approbation of merit in the student of the Medical College and to extend rewards to the assiduous and talented.

NATIVE HOSPITAL AT AGRA.

CAUSE OF

SICKNESS AMONG EUROPEANS AT THAT STATION.

We are glad to observe that a native hospital has been established at Agra under the auspices of the Hon'ble the Lieut. Governor, and that our esteemed friend, Dr. Login, has been appointed to the charge of it. We hear that the canteen at that station is deemed the great cause of sickness among Europeans; and not contagion which had been suspected by some high in authority. We have no doubt the plague of Pallee is limited to such filthy towns as those of Marwar, while ardent spirits commit greater and more extensive ravages among our soldiery than any other plague that has ever been, or will be, imported into the country.

GENERAL ORDERS.

Promotions.—Nov. 26, Hospital Apprentice C. Simons to be Apothecary from 13th ultimo.

Appointments.—Oct. 31, J. O'Dwyer, Asst. Surg. to C. S., Midnapore, S. H. Batson, Asst. Surg. C. S. Shahabad. Oct. 21. J. Innes, M D. Surg. to 15th N. I., S. Lightfoot, Asst. Surg. to 7th Light Cavalry.—Oct. 25, R. Wrightson, Asst. Surg. to 40th N. I., W. B. Davies, Asst. Surg. to Assam Light Infantry Battalion.—Oct. 26, D. Russel, M. D. to 4th Troop 1st Bat. Horse Artillery.—Nov. 7, T. Leckie, Asst. Surg. to C. S. of Bhaugulpore. —Oct. 28. H. Guthrie, M. D. Surg., C. S., Bareilly, G. Paton, M. D. Asst Surg. to 37th N. I.—Nov. 1, A. Thomson, Asst. Surg. to Hurriannah Light Infantry.—Nov. 21 T. W. Burt, Asst. Surg. to C. S. Chittagong.—Nov. 11, D. Renton, to act Sup. Surg. Benares, S. Ludlow, Sup. Surg. to Agra.

Leave of Absence.—Oct. 21, C. Mottley, Surg. from 1st Oct. to 9th Nov. M. C., J. Duncan, M. D. Asst. Surg. from 1st Nov. to 1st Feb. to the Presidency M. C, G. N. Check, Asst. Surg. five weeks to Bancoorah, P. A.—Oct. 22, R. H. Bond, Asst. Surg. 1st Oct. to 1st January 1837, to Presidency M. C., W. Spencer, Asst. Surg. from 1st Nov. to 1st March, to Presidency, M. C., Oct. 25, C. Mackinnon, Surg. from 5th Nov. to 20th March, to Presidency, M. C.—Nov. 4, W. Jackson, Surg. from 25th Dec. to 25th Feb. 1837, to Presidency P. A.—Nov. 21, W. M. Buchanan, M. D. three months M. C.—Nov. 11, R. Macqueen: Surg. from 20th Nov. to 20th Feb. to visit the Presidency P. A.

TO CORRESPONDENCE.

We have been favored with Dr. Annesley's communication: it shall appear next month, also the following papers:—

Dr. Campbell's on goitre.

M. Tronpam on Tracheotmie Dans le croup.

Mr. Brett's on capsular cataract.

Mr. Lindeman on the Lepers in India.

———— on the suppository pipe.

Essay on the action of mercury.

On stricture of the Rectum.

We beg to acknowledge the communication dated 22nd June, from Messrs. Brett and Bird, Guy's Hospitaonl, Dr. O'Shaughnessy's experiments on the blood.

The following works have been received from London for Review.

Hoblyn's Dictionary of Terms used in Medicine and the Collateral Sciences.

Dr. Osborne on Dropsies.

Sykes on the Atmospheric Tides and Meteorology of Dekan.

The British Medical Almanack for 1836.

We have been favored, with our friend Dr. Login's communication, his direction shall be obeyed.

We beg to acknowledge the receipt of Mr. Brown's letter from Tirhoot.

NOTICE TO SUBSCRIBERS.

No Steamer being advertised to start for Aliahabad we have dispatched the Journal to all our Subscribers by Dâk this month. We hope the new year will open with the new Regulations of the post office and save the enormous expence, to which our subscribers have been subjected.

TO THE HONORABLE THE COURT OF DIRECTORS OF THE HONORABLE EAST INDIA COMPANY.

THE MEMORIAL OF THE UNDERSIGNED COVENANTED SERVANTS

OF THE

Medical Establishment of Bengal,

MOST RESPECTFULLY SHEWETH,—

1st —That your Memorialists have seen with pleasure, that your Honorable Court has, in your letter dated 23d December, 1835, thought fit to make an additional provision for the retirement of Officers in your Military Service, and your Memorialists look with confidence to the extension of the same indulgence to them, although no mention is made of the Medical Department in the letter adverted to.

2d.—That it has pleased your Honorable Court to allow Military Chaplains to retire on the pensions of Lieutenant-Colonels, after a service of fifteen years.

3d.—That your Memorialists in no wise repine at the indulgence thus shewn to the other departments of your Military Service; but they most earnestly and respectfully submit, that they can fully bear a comparison with either of the other branches alluded to, in undergoing the hardships and trials of Military Service, or in the expense and labour in acquiring their professions as compared with the Members of the Ecclesiastical establishment, and therefore they rely with confidence on the justice of your Honorable Court, to grant them the same indulgence that has been shewn to their Military and Clerical Brethren.

4th.—That of all the hardships to which they are subjected in point of retirement, none is so severely felt as that portion of your regulations, which exact a further service of two years on the attainment of the grades of Superintending Surgeon and Member of the Medical Board; while Military Officers and Chaplains are eligible to retire on the grades to which they may have attained on the completion of their service, without question, let, or hindrance, and therefore your Memorialists most earnestly pray your Honorable Court to place them on an equality in this respect by rescinding that part of your Honorable Court's Regulations which insists on a further service of two years for the pension of Lieutenant-Colonel to a Superintending Surgeon, and for the increased pensions to Members of the Medical Board, both of whom, it is requested, may be declared eligible to their respective pensions on attaining those ranks.

5th.—That your Memorialists beg that your Honorable Court will also extend your recent Regulation of retiring pensions to the Medical Department, at the same time deducting, from the various periods therein stated, the sum of

five years, such being the principle on which the first pension attainable by a Medical Officer is established, and without which the plan will be inoperative; as the retirement on Captain's pay after 23 years, including 3 years' furlough, is already open to Medical Officers in three years less, and that of Major in 28 years would be so too, but for the heavy addition of two years' service after becoming Superintending Surgeons, and in like manner that of Lieutenant-Colonel after 33 years' service, a higher rate being open to a Member of the Medical Board, which in all fairness should be, as we get no off-reckonings.

6th.—That as Assistant Surgeons cannot enter the service before they are twenty two years of age, while Cadets can enter at sixteen, the new scale of pensions to Military Officers for a service of 23, 28, 33, and 38 years, including 3 years' furlough, will be equivalent to 17, 22, 27, and 32 years' service to Medical Officers, or the converse 23, 28, 33 and 38 years' Medical service are equal to 29, 34, 39, and 44 years' Military Service, and therefore to equalize them the proposed deduction of five years from the former scale should be made, that being the difference always acknowledged to subsist between the two classes, the one being entitled to a pension after twenty-two years' service, and the other after seventeen under the old system.

7th.—That the operation of the new system to the Medical Establishment should be to give pensions at the following rates including three years' furlough.

After	18	years' service	(3 years' furlough included)	the Pension of	Captain
Do.	23	Do.	Do.	Do.	Major
Do	28	Do.	Do.	Do.	Lt. Colonel
Do.	33	Do.	Do.	Do.	Colonel

provided always that such rates shall in no wise interfere with the pensions of Superintending Surgeons, and Members of the Medical Board, who, it is earnestly prayed, may be eligible to their respective pensions on attaining those several grades.

8th.—That your Memorialists entreat the attention of your Honorable Court to the fact, that the Senior Surgeons now on the list have served upwards of 30 years, and are only eligible to retire on the pension of Captain,

And your Memorialists will ever pray.

J. Langstaff, 1st Member Medical Board, John Swiney, M. D. 2nd Member Medical Board, J. Sawers, 3rd Member Medical Board, J. Halliday, Presidency Surgeon, S. Nicolson, Surgeon General Hospital, Charles C. Egerton, Assistant Surgeon, James Ranken, Surgeon, F. Pemble Strong, Surgeon Mysore Princes, H. S. Mercer, Surgeon, A. R. Jackson, M. D. Surgeon, J. R. Martin, Presidency Surgeon, W. Cameron, Presidency Surgeon, A Garden, M. D. Presidency Surgeon, J. T. Pearson, Frederick Corbyn, Garrison Surgeon, D. Stewart, 2nd Assistant Surgeon General Hospital, George Dodgson, Assistant Surgeon, John Wood, Assistant Surgeon, F. H. Brett, Assistant Surgeon, Governor General's Body Guard, R. Marshall, M. D. Assistant Surgeon, H. P. Bell, Garrison Assistant Surgeon, J. Chapman, M. D. G. A. S. J. McClelland, Assistant Surgeon, M. J. Bramley.

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